COAL OUTPUT O
1922

TABLES "6 AND 7, FOR REASONS STATED IN "6, RE
YEARS 1920 AND 1921 COM

AUTHORITY FOR PRODUCTION, DISPOSITION, WHEN AND WHERE PROD
PROVINCE OF ALBERTA

Graph Number 74. Compiled by Wm Pearce.

Note. Each Table is designated thus: ○

Schedule showing - First, the different Coal Fields of Alberta, (thirty five in all) Secondly, the sales from each field: Thirdly, the percentage of sales of kind; Fourth, the percentage of Sales of all kinds. It also shows the analysis of the Coals of each field so far as obtainable.
Sales equal 93·78% of the total output of Lignites
and 96·40% " " " " Bituminous

Showing represe Also the and all Anthracite of sales tons o

(2)

No.	Field	Total Sales	% of total sales of kind	% of total sales of all kinds.	Analysis							Li
					M.	V.	F.	A.	B.T.U.	$/M		
	LIGNITES OR DOMESTIC											
1	Lethbridge	511,872 Tons	17·68	9·01	7·7	34·12	47·93	10·13	9,150	C		
2	Magrath	3,127 "	·108	·005	5·91	39·21	46·35	8·53	9,867	C		
3	Milk River	8,816 "	·286	·155	5·71							
4	Taber	53,057 "	1·83	·934	11·7	34·79	48·44	12·87	10,194	C		
5	Bow Island	5,883 "	·203	·136	17·44	34·94	46·17	2·45	8,203	E		
6	Medicine Hat	30,965 "	1·07	·545	9·06	33·97	49·36	7·61	8,353	E		
7	Aldersyde	11,872 "	·41	·209	9·37	38·44	51·86	9·33	10,183	G		
8	Drumheller	1,122,055 "	38·76	19·76	4·8	33·6	49·4	12·2	11,111	D		
9	Big Valley	26,068 "	1·246	·635	10·46	34·74	49·78	5·34		E		
10	Brooks	15,272 "	·527	·268								
11	Hanna	40,056 "	1·38	·705								
12	Lacombe	15,706 "	·542	·276	14·7	31·7	45·65	12·45	8,714	G		
13	Trochu	17,475 "	·603	·307	12·4	35·1	49·3	4·4	9,098	G		
14	Three Hills	41,057 "	1·418	·723	11·32	34·71	54·13	6·2		G		
15	Carbon	38,052 "	1·31	·67	11·32	35·64	49·32	3·72		E		
16	Battle River	22,382 "	·773	·394	11·28	36·59	46·44	5·34	9,264	G		
17	Camrose	72,513 "	2·505	1·27	14·8	34·64	48·14	4·42	9,343	G		
18	Tofield	86,131 "	2·906	1·51	12·6	34·8	49·2	8·12	7,790	D		
19	Clover Bar	411,763 "	14·22	7·25	11·97	37·61	49·78	8·37	11,006	C		
20	Edmonton	106,707 "	3·68	1·88	14·97	37·61	49·78	8·37	11,006	C		
21	Nemeo	7,991 "	·276	1·40	12·6	31·4	49·8	8·2	8,779	D		
22	Cardiff	98,731 "	3·41	1·738	11·4	31·4	49·8	8·2	8,779	D		
23	Wabamun	38,112 "	1·38	·671	14·4	31·82	45·38	6·7	9,134	G		
24	Pembina	98,590 "	3·40	1·735	17·5	39·33	43·16	9·36	7,486	D		
	Total	2,894,220										
	SUB - BITUMINOUS											
25	Pincher Creek	10,811 Tons	1·76	·19	3·8	33·94	38·47	23·57	9,810	C		
26	High River	1,960 "	·32	·034	12·35	33·17	44·98	9·87		E		
27	Calgary	161 "	·026	·002								
28	Saunders	69,700 "	11·39	1·227								
29	Yellow Head	529,319 "	86·42	9·322	2·3	18·5	27·3	51·9	11,580	G		
	Total	611,951										
	BITUMINOUS AND ANTHRACITE											
30	Crowsnest Pass	984,574 "	45·33	17·34	4·72	24·7	64·40	6·48	13,411	C		
31	Canmore	457,102 "	7·23	2·767	1·46	11·46	82·42	5·42		E		
32	Brazeau	215,085 "	14·50	5·547	2·81	17·85	68·36	10·46	14,185	G		
33	Jasper Park	324,098 "	14·92	5·708	1·3	18·5	72·2	8·4	13,589	G		
34	Mountain Park	263,524 "	16·27	6·226	2·2	19·5	69·5	9·0	14,116	G		
35	Banff	37,243 "	1·71	·655								
	Total	2,171,632										

Note "M" denotes "Moisture Content"; "V" denotes "Volatile Combustible"
"F" " "Fixed Carbon" "A" " "Ash"
"B.T.U" denotes "British Thermal Units"
Authority "C" denotes McGill University. (Investigations by Porter, Derbey & Bl, Vol. 13)
"D" " Mines Branch № 331 - 1915.
"E" " " Memoir #53 No. 44 Geo. Survey. D.B. Dowling 1914
"G" Various Sources believed by Compiler to be correct.

Note. Except in Numbers 2 and 3, Sub-Bituminous is grouped with Bituminous and Anthracite.

OUTLINE MAP OF CANADA

West of Longitude 88 degrees (which is some distance east of Port Arthur and Fort William) to the Pacific Ocean, and extending from the 49th parallel to the 60th parallel of Latitude, showing the Railway Systems and Coal Fields of Alberta.

(1)

LEGEND

Canadian National Railway System.	shown thus:	———
Canadian Pacific Railway.	" "	———
Edmonton, Dunvegan and B.C. Rly. and Canada Central Rly.	Provincial Railways of Alberta. " "	—·—·—
Alberta and Great Waterways Railway.	" "	— — —
Lacombe and North Western Railway	" "	— — —
Great Northern Railway	" "	— — —
Winnipeg Waterways Railway	" "	— — —

COAL OUTPUT OF ALBERTA
1922

TABLES "6" AND "7" FOR REASONS STATED IN "6", REPRESENT THE OUTPUT FOR THE YEARS 1920 AND 1921 COMBINED

AUTHORITY FOR PRODUCTION, DISPOSITION, WHEN AND WHERE PRODUCED:- MINES BRANCH REPORT OF THE PROVINCE OF ALBERTA

Graph Number 74. Compiled by Wm. Pearce. Calgary, Alberta. July, 1923.

Note. Each Table is designated thus: ○

Schedule showing - First, the different Coal Fields of Alberta; (Thirty five in all) Secondly, the sales from each field; Thirdly, the percentage of sales of kind; Fourth, the percentage of Sales of all kinds. It also shows the analysis of the Coals of each field so far as obtainable. Sales equal 93·74% of the total output of Lignites and 96·40% " " " " Bituminous

(2)

No.	Field	Total Sales	% of total sales of kind	% of total sales of all kinds	Analysis M.	V.	F.	A.	B.T.U.	Authority
	LIGNITES OR DOMESTIC									
1.	Lethbridge	511,872 Tons	17·68	9·01	7·9	34·54	47·75	10·18	9,758	C
2.	Magrath	3,127 "	·108	·005	3·71	38·21	46·75	11·33	9,871	E
3.	Milk River	8,816 "	·282	·155	3·91					
4.	Taber	53,057 "	1·83	·934	11·7	31·71	49·46	12·45	11,066	C
5.	Bow Island	5,883 "	·203	·136	13·46	34·96	46·17	5·77	9,107	E
6.	Medicine Hat	30,965 "	1·07	·545	9·96	33·47	49·15	7·51	8,833	E
7.	Aldersyde	11,872 "	·41	·209	10·17	38·66	41·54	9·78	10,189	G
8.	Drumheller	1,122,055 "	38·76	19·76	14·5	33·6	40·4	11·5	9,655	D
9.	Big Valley	36,068 "	1·246	·635	11·46	36·74	40·78	9·36		E
10.	Brooks	15,272 "	·527	·268						
11.	Namaka	40,856 "	1·38	·705						
12.	Lacombe	15,706 "	·542	·276	14·7	31·17	42·45	13·18	8,314	G
13.	Trochu	17,373 "	·603	·307	12·6	31·1	49·3	6·4	10,982	G
14.	Three Hills	41,057 "	1·418	·723	11·74	34·79	51·15	6·12		G
15.	Carbon	38,052 "	1·31	·67	14·57	31·64	45·51	7·78		E
16.	Battle River	22,282 "	·773	·394	12·0	31·75	46·59	6·66	9,346	G
17.	Camrose	72,513 "	2·505	1·27	14·8	31·26	46·13	6·25	9,261	G
18.	Tofield	86,131 "	2·906	1·51	15·6	29·8	36·7	8·5	7,994	D
19.	Clover Bar	411,769 "	14·22	7·25						
20.	Edmonton	106,707 "	3·68	1·88	8·17	32·61	40·18	8·23	10,006	C
21.	Namao	7,991 "	·276	1·40						
22.	Cardiff	98,731 "	3·41	1·738	26·9	31·4	40·4	8·0	8,776	D
23.	Mountain	38,112 "	1·38	·671	16·4	31·52	43·19	6·9	9,334	G
24.	Pembina	98,590 "	3·40	1·735	17·6	28·12	43·85	9·33	9,460	D
	Total	2,894,220								
	SUB-BITUMINOUS									
25.	Pincher Creek	10,811 Tons	1·76	·19	3·8	28·94	58·47	28·17	9,600	C
26.	High River	1,960 "	·32	·034	2·93	36·27	44·58	5·82		E
27.	Calgary	161 "	·026	·002						
28.	Saunders	69,700 "	11·39	1·227						
29.	Yellowhead	820,313 "	86·43	9·322	2·5	18·8	57·8	21·4	11,580	G
	Total	611,351								
	BITUMINOUS AND ANTHRACITE									
30.	Crowsnest Pass	984,574 "	45·33	17·34	4·77	24·1	56·41	14·42	12,810	C
31.	Canmore	157,108 "	7·23	2·767	1·85	11·46	82·45	3·62		E
32.	Bragseau	315,085 "	14·50	5·547	0·9	17·93	68·16	13·41	13,195	G
33.	Jasper Park	324,098 "	14·92	5·708	2·3	18·5	57·8	21·4	11,580	G
34.	Mountain Park	353,524 "	16·27	6·226	3·6	24·5	63·3	8·3	13,216	G
35.	Banff	37,243 "	1·71	·655						
	Total	2,171,632								

Note "M" denotes "Moisture Content" "V" denotes "Volatile Combustible"
"F" " "Fixed Carbon" "A" " "Ash"
"B.T.U" denotes "British Thermal Units"
Authority "C" denotes Mc Gill University. (Investigations by Porter, Dorley & Ells, Vol. 13)
"D" " Mines Branch № 331 - 1915.
"E" " " Memoir 53 No. 44 Geo. Survey, D.B. Dowling 1914
"G" Various Sources believed by Compiler to be correct.

Note. Except in Numbers 2 and 3, Sub-Bituminous is grouped with Bituminous and Anthracite. See Memo.

Showing the six chief fields of Lignite sales representing upwards of 81% of the total. Also the three chief fields of sub-bituminous, and all the fields furnishing bituminous and Anthracite, showing in each case the percentage of sales of kind and the volume in tons of each of the fields mentioned.

(3)

LIGNITES OR DOMESTIC Field	Percentage	Tonnage
Taking the Fields in order of production represented in percentages and Tonnage		
Drumheller	38·76	1,122,055
Lethbridge	17·68	511,872
2 Combined	56·46	1,633,927
Clover Bar	14·22	411,769
3 Combined	70·68	2,045,696
Edmonton	3·68	106,707
5 Combined	77·77	2,252,133
Pembina	3·40	98,590
6 Combined	81·17	2,349,673

Leaving 18·83% or 544,547 tons distributed among 18 fields, an average per field of 30,262 tons or slightly over 1% per field. If however, Taber, Canmore and Tofield are included, their sales combined, amount to 211,701 Tons or 7·26% leaving 332,846 Tons or 11·57% in the 15 fields or 22,000 Tons or 0·77% per field.

SUB-BITUMINOUS

This is a classification initiated in 1922. Leaving Pincher Creek and High River formerly classed as Lignite, Yellowhead as Bituminous and added to Saunders

Yellowhead	86·43	820,313
Saunders	11·39	69,700
2 Combined	97·82	890,013
Pincher Creek	1·76	10,811
3 Combined	99·64	909,824

(leaving High River and Calgary 0·32% or 2,121 tons)

BITUMINOUS AND ANTHRACITE Field	Percentage	Tonnage
Crowsnest Pass	45·33	984,574
Mountain Park	16·27	353,524
2 Combined	61·60	1,338,098
Jasper Park	14·92	324,098
3 Combined	76·52	1,662,196
Bragseau	14·50	315,085
4 Combined	91·02	1,977,281
Canmore	7·23	157,108
5 Combined	98·25	2,134,389
Banff	1·71	37,243
Total	99·96	2,171,632

Graph showing where the Lignite or Domestic Coals were disposed of outside the Province, viz:- B.C., Saskatchewan, Manitoba, Ontario, and the United States, showing Sales in Tonnages and Percentages. (Note particularly the headings concerning the percentages)

(4)

LIGNITE OR DOMESTIC SALES FOR 1922

Fields	Amount Exported (1,659,224)	% of total Sales of each Kind (1,659,224)	% of total Sales of all Kinds (3,178,187)	BRITISH COLUMBIA. 63,701 tons or 4·02% of total Sales (1,631,724 Tons)	% of total Sales of Kind	% of total Sales of all Kinds	SASKATCHEWAN 1,164,864 tons or 46·26% Total Sales (1,440,224)	% of total Sales of Kind	% of total Sales of all Kinds	MANITOBA 436,437 or 88·06% of Total Sales (436,437)	% of total Sales of Kind (1,659,224)	% of total Sales of all Kinds (3,178,187)	ONTARIO 20,649 or 1·25% of Total Sales (20,649)	% of total Sales of Kind (1,659,224)	% of total Sales of all Kinds (3,178,187)	UNITED STATES 18,453 or 1·07% of Total Sales (18,453)	% of total Sales of U.S. of kind (1,659,224)	% of total Sales of all Kinds (3,178,187)	RAILWAYS		
Drumheller	875,454	51·26	28·18	18,284	28·23	1·11	563,600	51·01	34·14	17·75	238,640	68·42	18·10	3·46	10,301	49·88	0·63	0·32	4,609	24·97	0·28	0·14			
Lethbridge	371,450	22·52	11·70	27,025	38·37	1·64	0·85	293,785	24·59	17·80	5·24	43,661	10·00	2·65	1·37	865	4·19	0·05	0·03	6,294	34·10	0·38	0·20			
Clover Bar	90,727	5·50	2·86	3,089	4·43	0·19	0·00	65,378	5·21	3·96	2·05	21,676	4·82	1·28	0·66	1,018	4·93	0·06	0·03	64	0·35					
Pembina	75,827	4·60	2·39	16,805	23·68	1·00	0·52	23,934	2·16	1·45	0·75	30,242	6·92	1·83	0·95	4,644	22·50	0·28	0·14	506	2·72	0·03	0·02			
Tofield	44,505	2·70	1·40	40				38,798	3·40	2·41	1·25	4,651	1·06	0·28	0·14											
Taber	39,143	2·37	1·23	1,682	1·56	0·06	0·03	24,548	2·22	1·49	0·77	8,596	1·96	0·52	0·27	528	2·56	0·03	0·01	4,369	23·67	0·26	0·13			
Canmore	24,986	1·51	0·79	Nil.	Nil.	Nil.	Nil.	20,674	1·67	1·28	0·65	4,247	9·87	0·26	0·13	65	0·31									
Cardiff	17,864	1·08	0·56	Nil.	Nil.	Nil.	Nil.	14,491	1·32	0·89	0·46	3	0·74	0·20	0·10											
Big Valley	6,441	0·39	0·20	32				4,878	0·44	0·36	0·15	1,531	0·35	0·08	0·04											
Edmonton	6,253	0·38	0·20	30				3,369	0·38	0·20	0·06	2,854	0·66	0·18	0·91											
Balance, 16 Fields	77,370	4·69	2·43	3,534	5·16	0·22	0·11	50,241	4·35	3·05	1·58	17,692	4·05	1·07	0·55	3,228	15·63	0·20	1·00	2,615	14·17	0·16	0·08			
Total	1,650,224	100·00	51·94	60,701	88·83	4·22	2·06	1,108,846	88·97	64·56	34·65	436,473	99·95	24·46	14·52	20,649	100·00	1·25	1·53	18,453	99·96	1·11	0·57			

Graph showing where the Bituminous and Anthracite Coals were disposed of outside the Province, viz:- B.C., Saskatchewan, Manitoba, Ontario, U.S. and Railways, showing sales in percentages and tonnage. The percentage allotted for Railways consumption outside the province is assumed at 50% of the Total.

(5)

BITUMINOUS AND ANTHRACITE SALES FOR 1922

Fields	Amount Exported (1,527,343)	% of total Sales of each Kind (1,527,343)	% of total Sales of all Kinds (3,178,187)	BRITISH COLUMBIA. 10,384 or ·68% of Total Sales (1,527,343)	% of total Sales of Kind	% of total Sales of all Kinds	SASKATCHEWAN 54,770 or 3·58% Total Sales (1,527,343)	% of total Sales of Kind	% of total Sales of all Kinds	MANITOBA 11,757 or ·77% of Total Sales (1,527,343)	% of total Sales of Kind	% of total Sales of all Kinds	UNITED STATES 92 or ·01% of Total Sales (1,527,343)	% of total Sales of Kind	% of total Sales of all Kinds	RAILWAYS 366,385 or 23·98% of Total Sales (1,527,343)	% of total Sales of Kind	% of total Sales of all Kinds
Crowsnest Pass	530,030	34·69	16·68	10,384	27·13	0·68	0·33	54,770	3·58	3·60	1·73	11,757	13·99	0·77	0·37	92	3·66			366,385	34·86	24·00	11·53			
Yellowhead	280,732	18·38	8·83	13,279	34·69	0·87	0·42	271,852	10·24	1·80	0·86	42,344	50·40	2·77	1·33	405	43·98	0·03		194,472	18·79	12·78	6·12			
Mountain Pk.	263,139	17·22	8·28	11,516	30·08	0·75	0·36	157,422	89·09	10·38	4·95	9,122	18·86	0·60	0·29					85,075	81·09	5·57	2·68			
Jasper Park	161,835	10·60	5·09	304	0·86	0·02		946	0·69	0·01						34	3·68			160,271	13·54	10·86	5·08			
Bragseau	154,490	10·11	4·86					37	0·01											154,453	14·05	10·11	4·86			
Canmore	74,545	4·88	2·34	221	0·60	0·01		1,794	0·67	0·11	0·05	174	8·19	0·01						72,356	6·88	4·73	2·28			
Anthracite	16,599	1·07	0·52	1,288	3·36	0·08	0·04	736	0·30	0·05	0·02	10	0·01			70				14,535	1·35	0·93	0·45			
Saunders	45,731	2·99	1·44	727	1·85	0·05	0·02	23,523	9·00	1·56	0·75	20,438	24·54	1·34	0·65	395	42·53	0·03	0·01	80						
Pincher Creek																										
High River and Calgary	982	0·06	0·03	553	1·45	0·04	0·02	123	0·04											301	0·34	0·01	0·01			
Total	1,527,343	100·00	48·06	38,279	100·00	2·50		244,403	100·00	17·43		84,045	100·00	5·50		924	100·00	0·06		86,991	99·72	5·69		1,051,251	100·00	68·83
Grand Total	3,178,187		100·00	107,980				1,375,249				520,516				21,573				105,514				1,051,251		

ALBERTA AND SOUTH-EASTERN BRITISH COLUMBIA, COMBINED

Note. The Bituminous Field of Southern Alberta and South Eastern British Columbia are one and the same field. Interests are interlocking, therefore it would be logical and advisable to combine them.

(14)

Scale:- 1" equals 600,000 Tons

Lignite or Domestic:- 2,894,220 Tons or 46·6 % of Total | Subbituminous, 611,351 Tons | Bituminous and Anthracite (Alberta) 2,171,632 Tons or 34·6 % | B.C. 1,372,628 Tons

Total Tonnage equals 6,275,481 Tons, or 100%

B.C. BITUMINOUS — Showing where produced and Shipped to. Total Output 537,628 Tons.

FIELD	OUTPUT OF FIELD	UNITED STATES SALES	CANADIAN SALES
Coal Creek	309,866 Tons or 57%	214,519 Tons or 53·7%	90,347 Tons or 45·55%
Michel	232,866 " - 43%	140,209 " - 35·2%	92,297 " - 46·85%
Corbin Coal and Coke Company	89,896 " - 16%	44,157 " - 11·1%	45,739 " - 7·3%
Total	537,628 " - 100%	398,885 " - 100%	139,383 " - 100%

Analysis M.	V.	F.	A.	B.T.U.	Authority
0·87	25·28	68·32	5·53	14·458	W. D. Wilson, Pres. Crowsnest Pass Coal Company, Ltd.
0·80	24·52	67·45	7·23	14·192	16th May, 1923.

Graph showing the total output of Lignites and Bituminous Coals for each month of the year by percentages taking the average monthly production as 100. (As there was a strike during 1922, the combined production of 1920 and 1921 is taken on which to base the percentages.

(6)

Graph showing the Five chief mines of the Lignite production showing the output for each month of the year, taking 100 as the average monthly production and basing it as in No. 6, on the combined production for the years 1920 and 1921

(7)

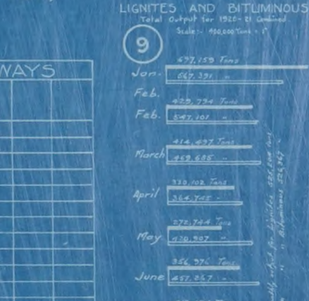
Graph showing the six chief mines of the Bituminous production, showing the output for each month of the year, taking 100 as the average monthly production, and basing it as in No's 6 and 7, on the combined production for the years 1920 and 1921
Note These six fields practically cover the entire production.

(8)

(9)

The total Monthly output both for the Lignite and Bituminous Fields for the years 1922 - as. Note the average production. Each of the two are the same within a few tons, so that the two average lines cannot be shown separately. It will also be noticed that the transition from the average is very much greater for the Lignite than it is for the Bituminous

LIGNITES AND BITUMINOUS
Total Output for 1922 - 21 Combined
Scale:- 400,000 Tons = 1"



BERTA

PUT FOR THE

PORT OF THE

July 1923.

(4) Graph showing where the Lignite or Domestic Coals were disposed of outside the Province, viz:- B.C. Saskatchewan, Manitoba, Ontario, and the United States, showing Sales in Tonnages and Percentages. (Note particularly the headings concerning the percentages)

LIGNITE OR DOMESTIC SALES FOR 1922

Fields	Amount Exported	% of Total Sales of each Kind	% of Total Sales of all Kinds	BRITISH COLUMBIA. 68,701 Tons or 4·32% of Total Sales	% of Total Sales in B.C. of Kind	% of Total Sales of all Kinds	% of Total Sales of all Kinds	SASKATCHEWAN 1,104,006 Tons or 69·74% of Total Sales	% of Total Sales in Province of Kind	% of Total Sales of all Kinds	% of Total Sales of all Kinds	MANITOBA 436,437 Tons or 27·58% of Total Sales	% of Total Sales in Province of Kind	% of Total Sales of all Kinds	% of Total Sales of all Kinds	ONTARIO 20,649 Tons or 1·30% of Total Sales	% of Total Sales of Kind	% of Total Sales of all Kinds	% of Total Sales of all Kinds	UNITED STATES 18,453 Tons or 1·16% of Total Sales	% of Total Sales in U.S. of Kind	% of Total Sales of all Kinds	% of Total Sales of all Kinds	RAILWAYS			
	1,650,224		4·32	68,701				1,104,006				436,437				20,649				18,453								
				of Total Sales				of Total Sales				of Total Sales				of Total Sales				of Total Sales								
Drumheller	895,434	51·26	88·18	18,284	26·83	1·11	2·57	563,600	51·01	34·14	17·73	298,640	68·42	18·10	2·49	10,301	49·88	0·63	0·32	4,609	24·97	0·28	0·14					
Lethbridge	371,630	22·52	11·70	27,025	39·37	1·64	0·85	293,785	26·59	17·80	9·24	43,661	10·00	2·65	1·37	865	4·19	0·05	0·03	6,294	34·10	0·38	0·20					
Clover Bar	30,727	1·86	0·96	3,985	5·80	0·24	0·12	19,378	1·75	1·18	0·61	21,076	4·82	1·28	0·66	1,018	4·93	0·06	0·03	64	0·35							
Pembina	75,827	4·60	2·39	16,505	24·03	1·00	0·52	23,534	2·13	1·45	0·75	30,242	6·92	1·83	0·95	4,644	22·50	0·28	0·14	506	2·72	0·03	0·02					
Tofield	49,508	3·00	1·56	60				30,798	2·66	2·41	1·25	4,651	1·06	0·28	0·14													
Taber	39,193	2·37	1·23	1,082	1·56	0·06	0·03	24,568	2·22	1·49	0·77	8,596	1·96	0·52	0·27	528	2·56	0·03	0·01	4,369	23·67	0·26	0·13					
Camrose	24,786	1·51	0·78	Nil.	Nil	Nil.	Nil	20,674	1·87	1·28	0·66	4,247	0·97	0·26	0·13	45	0·21											
Cardiff	17,864	1·08	0·56	Nil.	Nil	Nil	Nil	14,431	1·32	0·89	0·46	3	0·74	0·20	0·10													
Big Valley	6,441	0·39	0·20	32				4,878	0·44	0·30	0·15	1,531	0·35	0·09	0·04													
Edmonton	6,293	0·38	0·20	32				3,369	0·30	0·20	0·10	2,894	0·66	0·18	0·91													
Okotoks, Ice Fields	77,370	4·69	2·43	3,594	5·16	0·22	0·11	58,241	4·55	3·05	1·86	17,692	4·05	1·07	0·55	3,228	15·63	0·20	1·00	2,615	14·17	0·16	0·08					
Total.	1,650,224	100·00	51·94	69,701	99·83	4·22	2·06	1,104,846	99·57	64·96	35·69	436,473	99·95	26·46	14·52	20,649	100·00	1·25	1·53	18,453	99·96	1·11	0·57					

(5) Graph showing where the Bituminous and Anthracite Coals were disposed of outside the Province, viz:- B.C. Saskatchewan, Manitoba, Ontario, U.S and Railways, showing sales in percentages and tonnage. The percentage allotted for Railways consumption outside the province it assumed at 50% of the Total.

BITUMINOUS AND ANTHRACITE SALES FOR 1922

Crowsnest Pass	530,830	34·69	16·68	10,384	27·13	0·68	0·33	54,770	10·56	3·60	1·73	11,737	13·99	0·77	0·37	92	7·66			86,640	99·58	5·67	2·72	366·385	34·86	24·00	11·53	
Yellowhead	280,792	18·35	8·83	13,779	34·45	0·87	0·42	237,822	10·24	1·80	0·86	42,344	50·40	2·77	1·33	405	43·83	0·05						194,472	18·79	12·93	6·21	
Mountain Pk	263,139	17·22	8·28	11,516	30·08	0·75	0·36	157,422	59·05	16·30	4·95	9,132	10·85	0·60	0·29									85,079	8·09	5·97	2·68	
Jasper Park	161,855	10·60	5·09	304	0·80	0·02		246	0·09	0·01						34	3·68							161,271	15·34	10·56	5·08	
Grassy	154,490	10·11	4·86					37	0·01															154,453	14·69	10·11	4·86	
Canmore	74,545	4·88	2·34	221	0·60	0·01		1,194	0·47	0·11	0·05	174	0·19	0·01						70		1		72,356	6·88	4·73	2·28	
Anthracite	14,328	1·07	0·52	12·85	3·36	0·08	0·04	736	0·30	0·05	0·02	10	0·01							50				14,235	1·35	0·93	0·45	
Saunders	45,731	2·99	1·44	70·7	1·85	0·05	0·02	23,923	9·00	1·56	0·75	20,638	24·56	1·35	0·65	395	42·53	0·03	0·01									
Pincher Creek																				301	0·34	0·01	0·01					
High River and Calgary	982	0·06	0·03	553	1·45	0·04	0·02	129	0·04																			
Total	1,527,363	100·00	48·06	38,277	100·00	2·50		244,403	100·00	17·43		84,045	100·00	5·50		924	100·00	0·06		86,991	99·92	5·65		1,051,251	100·00	68·83		
Grand Total	3,178,187		100·00	107,980				1,371,249				520,518				21,573				105,514				1,051,251				

ALBERTA AND SOUTH-EASTERN BRITISH COLUMBIA, COMBINED

N.B. The Bituminous Field of Southern Alberta and South Eastern British Columbia are one and the same field; interests are interlocking, therefore it would be logical and advisable to combine them.

Scale:- 1" equals 600,000 Tons

Lignite or Domestic:- 2,854,220 Tons or 46·1·% of Total | Sub-Bitum. 41,961 Tons | Bituminous and Anthracite (Alberta) 3,171,422 Tons or 24·6% | B.C. 537,628 Tons

Total Tonnage equals 6,275,421 Tons, or 100%

(14)

B.C. BITUMINOUS Showing where produced and Shipped to. Total Output 537,628 Tons.

FIELD	OUTPUT OF FIELD	UNITED STATES SALES	CANADIAN SALES
Coal Creek	309,866 Tons or 57%	214,515 Tons or 53·7%	30,347 Tons or 43·55%
Michel	232,866 " " 30%	140,203 " " 35·2%	32,227 " " 46·55%
Corbin Coal and Coke Company	59,896 " " 10%	44,157 " " 11·1%	15,739 " " 7·9%
Total	537,628 " " 100%	398,865 " " 100%	130,283 " " 100%

Analysis	M.	V.M.	F.C.	A.	B.T.U.	Authority
	0·87	25·78	68·32	5·53	14·658	Mr. A. Watson, Dep. Commercial Agent Coal Commissioner, Edn. 16th May, 1923.
	0·88	14·52	67·45	7·23	14,155	

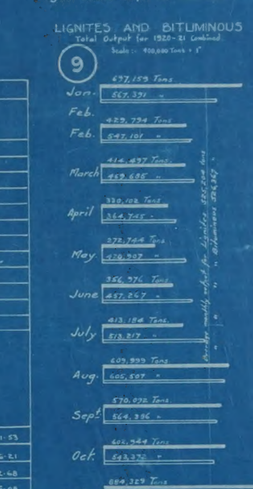
(9) The total Monthly output both for the Lignite and Bituminous Fields for the years 1920-21. Note the average production. Each of the two are the same within a few tons, so that the two average lines cannot be shown separately. It will also be noticed that the variation from the average is very much greater for the Lignite than it is for the Bituminous

(10) Graph showing the monthly output of the five chief mines (Lignite) which includes all that produce upwards of 100,000 Tons per annum. The next five mines produce 81·41% of the Total output, leaving 18·59% to be divided among the remaining 21 fields. Note the Vertical lines which represent the average monthly output of Lignites for each of the Five mines. The output for the Lethbridge field is much steadier than any of the others. The largest field (Drumheller) has much the greatest variation.

(11) Graph showing the % of increase or decrease of Lignite production for the month, based on the preceding month. (1920-21 combined) The Vertical centre line represents the average monthly production for the year and the longitudinal line to the left shows the monthly percentage in which it is under. The line to the right shows where it exceeds the monthly average. It is thought that this would prove both interesting and instructive

(12) Graph showing the monthly output of the entire Bituminous Field. This is worked out on the same basis as (9) to. It will be noticed however that there is much less monthly variation in the Bituminous, than there is in the Lignites. The leading field viz:- Crowsnest Pass has a less percentage of variation than the other fields.

(13) Graph showing the percentage of increase and decrease of Bituminous Coals, based on the preceding month. 1920 and 1921 Combined Graph similar to Number 11



Graph showing the total output of Lignites and Bituminous Coals for each month of the year by percentages, taking the average monthly production as 100. (As there was a strike during 1922, the combined production of 1920 and 1921 is taken on which to base the percentages.

(7)

Graph showing the Five chief mines of the Lignite production showing the output for each month of the year, taking 100 as the average monthly production and basing it as in No. 6, on the combined production for the years 1920 and 1921

(8)

Graph showing the six chief mines of the Bituminous production, showing the output for each month of the year, taking 100 as the average monthly production, and basing it as in No 6 and 7, on the combined production for the years 1920 and 1921 Note These six fields practically cover the entire production

(4)

Graph showing where the Lignite or Domestic Coals were disposed of outside the Province, viz:- B.C., Saskatchewan, Manitoba, Ontario, and the United States, showing Sales in Tonnages and Percentages. (Note particularly the headings concerning the percentages)

LIGNITE OR DOMESTIC SALES FOR 1922

Fields	Amount Exported	% of Total Sales of each Kind	% of Total Sales of all Kinds	BRITISH COLUMBIA. 63,701 Tons or 41.22% of Total Sales	% of Total Sales of each Kind	% of Total Sales of all Kinds	SASKATCHEWAN 1,164,346 Tons or 66.24% of Total Sales	% of Total Sales of each Kind	% of Total Sales of all Kinds	MANITOBA 436,437 Tons or 24.84% of Total Sales	% of Total Sales of each Kind	% of Total Sales of all Kinds	ONTARIO 20,649 Tons or 1.18% of Total Sales	% of Total Sales of each Kind	% of Total Sales of all Kinds	UNITED STATES 18,423 Tons or 1.04% of Total Sales	% of Total Sales of each Kind	% of Total Sales of all Kinds	RAILWAYS		
	(1,652,224)			3,178,187			1,652,224		3,178,187	1,164,846		2,410,804	3,178,187			(1,652,224)		3,178,187			
Drumheller	895,434	51·26	28·18	18,344	28·83	1·11	563,600	51·01	34·14	17·73	238,690	68·42	18·10	5·40	10,301	44·88	0·63	0·32	4,409	24·97	0·28	0·14			
Lethbridge	371,630	22·52	11·70	17,025	38·57	1·64	293,785	26·59	17·80	9·24	43,661	10·00	2·69	1·37	865	4·18	0·05	0·03	6,294	34·10	0·38	0·20			
Clover Bar	90,727	5·60	2·86	3,985	6·43	0·13	65,378	5·91	3·96	2·05	14,076	4·82	1·28	0·66	1,018	4·93	0·06	0·03	64	0·35					
Pembina	78,827	4·60	2·39	16,505	33·68	1·00	53,934	3·16	1·45	0·76	30,262	6·72	1·83	0·95	4,694	22·50	0·28	0·14	506	2·72	0·03	0·01			
Tofield	44,509	2·70	1·40	50			38,798	3·66	2·41	1·22	4,681	1·04	0·28	0·14											
Taber	33,162	2·27	1·23	1,682	1·06	0·06	24,568	2·28	1·49	0·77	8,396	1·96	0·52	0·27	526	2·56	0·03	0·01	4,369	23·67	0·26	0·13			
Canmore	29,384	1·37	0·72	Nil.	Nil	Nil	Nil	20,676	1·87	1·28	0·65	4,247	0·97	0·26	0·13	65	0·31								
Cardiff	17,869	1·08	0·55	Nil.	Nil	Nil	Nil	14,481	1·32	0·89	0·46	3	0·74	0·20	0·10										
Big Valley	6,441	0·39	0·20	32				4,878	0·44	0·30	0·15	1,531	0·35	0·09	0·04										
Edmonton	4,293	0·26	0·13	30				3,369	0·28	0·20	0·10	2,874	0·66	0·18	0·09										
Outcrops, & Pits etc.	77,370	4·69	2·43	3,594	5·64	0·22	0·11	58,241	4·55	3·05	1·58	17,692	4·05	1·07	0·55	3,228	15·63	0·20	1·00	2,615	14·17	0·16	0·08			
Total.	1,650,224	100·00	51·94	63,701	100·00	4·28	2·06	1,164,846	100·00	73·42	36·49	436,673	100·00	26·66	14·58	20,649	100·00	1·25	1·53	18,453	99·96	1·11	0·57			

(5)

Graph showing where the Bituminous and Anthracite Coals were disposed of outside the Province, viz:- B.C., Saskatchewan, Manitoba, Ontario, U.S and Railways, showing sales in percentages and tonnage. The percentage allotted for Railways consumption outside the province is assumed at 50% of the Total.

BITUMINOUS AND ANTHRACITE SALES FOR 1922

Coal Creek	530,030	34·49	16·68	10,126	27·13	0·68	0·31	54,770	70·56	3·60	1·73	11,737	13·99	0·77	0·37	52	3·66			86,640	99·58	5·67	2·72	366,385	34·86	24·00	11·53
Yellowhead.	280,726	18·35	8·83	13,279	35·60	0·87	0·42	231,892	10·24	1·80	0·86	28,344	33·80	1·87	1·33	405	28·83	0·05						194,472	18·79	12·75	6·21
Mountain Pk.	263,139	17·22	8·28	11,516	30·08	0·75	0·36	157,422	59·09	10·36	4·95	9,122	10·85	0·60	0·29									85,079	8·09	5·57	2·68
Jasper Park	161,855	10·60	5·09	304	0·80	0·02		246	0·09	0·01						34	2·68							161,271	15·36	10·56	5·08
Brazeau	156,490	10·25	4·96					37	0·01															154,453	14·69	10·11	4·86
Canmore	74,545	4·88	2·34	221	0·60	0·01		1,794	0·67	0·11	0·05	174	0·19	0·01										73,356	6·98	4·73	2·28
Anthracite	16,359	1·07	0·52	12·86	3·36	0·08	0·04	79	0·30	0·05	0·02	10	0·01							70				14,235	1·35	0·93	0·45
Saunders	45,731	2·99	1·44	727	1·85	0·05	0·02	23,283	9·00	1·26	0·75	20,638	24·56	1·25	0·65	395	42·53	0·03	0·01	50							
Pincher Creek																				301	0·34	0·01	0·01				
High River and Calgary	282	0·06	0·03	553	1·45	0·04	0·02	183	0·04																		
Total	1,527,963	100·00	48·06	38,272	100·00	2·50		264,403	100·00	17·43		84,045	100·00	5·50		924	100·00	0·06		86,991	99·92	5·68		1,051,251	100·00	68·83	
Grand Total	3,178,187		100·00	167,980				1,871,649				520,518				21,573				105,514				1,051,251			

ALBERTA AND SOUTH-EASTERN BRITISH COLUMBIA, COMBINED

Note The Bituminous Field of Southern Alberta and South Eastern British Columbia are one and the same field. Interests are interlocking, therefore it would be logical and advisable to combine them.

(14)

Scale:- 1" equals 600,000 Tons

Lignite or Domestic:- 2,854,220 Tons or 45·1% of Total — Sub-Bitum. 61,361 Tons — Bituminous and Anthracite (Alberta) 2,171,622 Tons or 34·4% — B.C. 537,628 Tons

Total Tonnage equals 6,275,421 Tons, or 100%

B. C. BITUMINOUS — Showing where produced and Shipped to. Total Output 537,628 Tons.

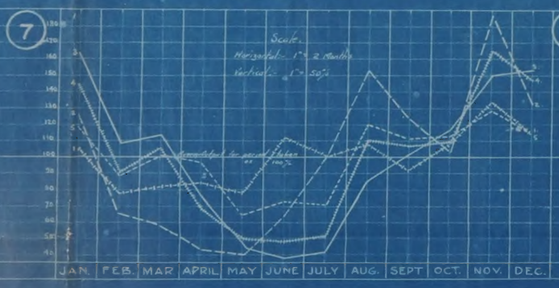
FIELD	OUTPUT OF FIELD	UNITED STATES SALES	CANADIAN SALES
Coal Creek	309,866 Tons or 57%	214,513 Tons or 53·7%	30,347 Tons or 45·58%
Michel	232,866 " " 30%	140,209 " " 35·2%	52,297 " " 46·55%
Corbin Coal and Coke Company	53,896 " " 10%	44,157 " " 11·1%	15,739 " " 7·9%
Total	537,628 " " 100%	398,885 " " 100%	139,383 " " 140%

Analysis	M.	V.	F.	A.	B.T.U.	Authority
	0·87	25·28	68·32	5·53	14,658	W. R. Nelson, Pres. Crowsnest Pass Coal Company, Ltd.
	0·80	34·52	57·45	7·23	14,192	14½ aug. 1923.

Graph showing the total output of Lignites and Bituminous Coals for each month of the year, by percentages, taking the average monthly production as 100. Coke there was a strike during 1922, the combined production of 1920 and 1921 is taken on which to base the percentages.

(7)

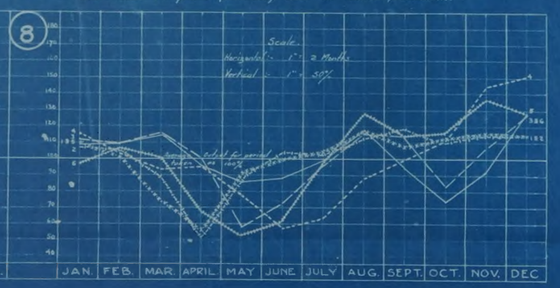
Graph showing the Five chief mines of the Lignite production showing the output for each month of the year, taking 100 as the average monthly production and basing it as in No. 6, on the combined production for the years 1920 and 1921



Legend. No. 1. denotes Drumheller and is shown thus:-
No. 2 " Lethbridge " " " " — — — — —
No. 3 " Clover Bar " " " "
No. 4 " Cardiff " " " " - - - - -
No. 5 " Pembina " " " " ·····

(8)

Graph showing the six chief mines of the Bituminous production, showing the output for each month of the year; taking 100 as the average monthly production, and basing it as in the 6 and 7, on the combined production for the years 1920 and 1921 Note These six fields practically cover the entire production.



Legend. No. 1 denotes Crowsnest Pass coal and is shown thus:-
No. 2 " Canmore " " " "
No. 3 " Brazeau " " " "
No. 4 " Jasper Park " " " "
No. 5 " Yellowhead " " " "
No. 6 " Mountain Park " " " "

(9)

LIGNITES AND BITUMINOUS

Total Output for 1920-21 Combined

Scale:- 100,000 Tons = 1"

	Lignites	Bituminous
Jan.	677,153 Tons	867,331 "
Feb.	829,794 "	643,101 "
March	914,497 "	747,685 "
April	330,105 Tons	314,745 "
May	372,748 "	476,307 "
June	366,376 Tons	457,267 "
July	413,184 Tons	518,817 "
Aug.	609,999 Tons	605,807 "
Sept.	570,092 Tons	564,386 "
Oct.	622,749 Tons	643,338 "
Nov.	684,269 Tons	628,876 "
Dec	720,628 Tons	644,401 "

Lignites shown — Bituminous -

(10)

LIGNITES

1920 and 1921 Combined.

Scale:- 100,000 Tons = 1 inch

	Tons	Decrease %	Increase %
January	236,064		
	140,558	0·40	
	96,853	0·31	
	38,676	0·60	
	33,977	0·12	
February	120,976		0·43
	106,446	0·12	
	64,355	0·39	
	17,867	0·72	
	11,026	0·38	
March	105,765		0·89
	115,555		0·09
	66,894	0·42	
	28,356	0·57	
	24,996	0·11	
April	72,567	0·31	
	115,205		0·58
	44,759	0·38	
	27,978	0·37	
	21,455	0·23	
May	72,620	0·31	
	157,406		0·67
	57,109	0·36	
	17,210	0·70	
	16,552	0·04	
June	118,268	0·50	
	151,032		0·27
	23,992	0·84	
	15,729	0·34	
	17,047	0·08	
July	174,681	0·69	
	136,822	0·21	
	29,621	0·78	
	17,169	0·42	
	17,059	0·01	
August	282,015	0·59	
	148,334	0·47	
	50,590	0·66	
	24,911	0·51	
	18,521	0·25	
September	228,767	0·19	
	183,234	0·19	
	60,231	0·18	
	36,675	0·39	
	24,405	0·33	
October	134,281	0·12	
	144,646		0·07
	59,681	0·13	
	37,664	0·36	
	24,841	0·34	
November	346,509	0·81	
	183,571	0·24	
	87,035	0·28	
	41,019	0·47	
	30,210	0·12	
December	244,334	0·30	
	155,136	0·18	
	70,089	0·28	
	36,643	0·11	
	27,017	0·24	

Average monthly output

Drumheller #1 182,539 Tons
Lethbridge #2 135,611 "
Clover Bar #3 58,826 "
Cardiff #4 25,883 "
Pembina #5 43,586 "

(12)

BITUMINOUS

1920 and 1921 Combined

	Tons	Decrease %	Increase %
January	324,583		
	241,386	0·26	
	96,439	0·60	
	42,381	0·56	
	66,767	0·57	
	42,631	0·36	
February	355,592		0·97
	241,237	0·32	
	85,005	0·65	
	45,596	0·46	
	67,852	0·48	
	54,804	0·19	
March	187,068		0·53
	132,414	0·29	
	83,671	0·37	
	38,497	0·54	
	30,019	0·22	
	52,135	0·42	
April	139,401	0·26	
	80,017	0·42	
	74,696	0·07	
	35,660	0·52	
	27,384	0·23	
	34,810	0·21	
May	336,614		0·58
	251,250	0·25	
	95,986	0·62	
	31,768	0·67	
	49,782	0·36	
	34,318	0·31	
June	220,811		0·34
	41,813	0·81	
	55,820	0·25	
	23,110	0·58	
	54,358	0·57	
	31,918	0·41	
July	261,615		0·18
	41,537	0·84	
	33,880	0·19	
	29,649	0·12	
	54,550	0·84	
	51,535	0·05	
August	392,787		0·50
	44,928	0·88	
	88,345	0·99	
	36,134	0·59	
	73,338	0·50	
	55,069	0·24	
September	371,418		0·55
	47,350	0·87	
	58,251	0·81	
	40,891	0·29	
	57,987	0·31	
	53,685	0·12	
October	284,284		0·23
	43,588	0·85	
	64,302	0·32	
	46,453	0·28	
	45,089	0·03	
	59,336	0·01	
November	303,036		0·06
	46,180	0·84	
	82,174	0·22	
	59,745	0·28	
	44,561	0·25	
	70,449	0·15	
December	250,573	0·17	
	45,499	0·35	
	38,367	0·15	
	42,521	0·11	
	39,925	0·06	
	64,817	0·38	

Average monthly output

Brazeau #3 77,881 Tons
Yellowhead #6 61,555 "
Mountain Park #6 51,742 "
Jasper Park #7 41,133 "
Canmore #8 40,142 "
Crowsnest Pass #1 392,324 Tons

(2)

LIGNITES OR DOMESTIC

No.	Field	Total Sales	% of total sales of kind	% of total sales of all kinds	Analyses M	V	F	A	B.T.U.	Authority
1	Lethbridge	511,872 Tons	17·68	3·01	7-9	34-36	47-49	10-13	8,718	C
2	Magrath	3,137 "	·108	·005	3-7	39-41	46-51	8-10	8,287	E
3	Milk River	8,816 "	·282	·185						
4	Taber	53,087 "	1·83	·934	11-7	34-79	44-94	12-40	11,444	C
5	Bow Island	5,883 "	·203	·136	17-46	30-96	46-17	6-17	9,459	E
6	Medicine Hat	30,965 "	1·07	·545	7-96	33-97	49-18	2-81	8,833	E
7	Alderyde	11,872 "	·41	·209	9-17	38-44	51-84	4-78	10,189	G
8	Drumheller	1,120,055 "	38·76	19·76	14-5	33-6	43-4	6-5	9,620	D
9	Big Valley	36,068 "	1·246	·635	17-46	36-24	46-78	9-24		E
10	Brooks	15,272 "	·527	·268						
11	Hanna	40,056 "	1·38	·705						
12	Lacombe	15,706 "	·542	·276	14-7	31-17	45-45	15-18	8,716	G
13	Trochu	17,475 "	·603	·307	12-4	36-1	48-3	6-4	10,293	G
14	Three Hills	41,057 "	1·418	·723	11-38	34-76	52-05	6-21		G
15	Carbon	38,052 "	1·31	·67	11-37	35-44	46-52	7-78		E
16	Battle River	22,382 "	·773	·394	11-20	33-76	46-59	8-46	9,746	G
17	Camrose	72,513 "	2·505	1·27	14-8	31-46	46-13	7-43	9,241	G
18	Tofield	86,131 "	2·906	1·51	12-6	29-8	54-7	8-5	9,944	D
19	Clover Bar	411,768 "	14·22	7·25	8-97	32-6	49-18	9-22	10,486	C
20	Edmonton	106,707 "	3·68	1·88						
21	Namao	7,991 "	·276	1·40	14-9	31-6	46-8	7-0	8,770	D
22	Cardiff	98,731 "	3·41	1·738						
23	Wabamum	38,112 "	1·38	·671	14-4	31-51	48-0	6-9	9,334	G
24	Pembina	38,590 "	3·40	1·735	17-6	29-13	45-86	9-33	9,460	D
	Total	2,894,220								

SUB-BITUMINOUS

25	Pincher Creek	10,811 Tons	1·76	·13	3-8	38-74	38-41	19-77	9,836	C
26	High River	1,940 "	·32	·034	2-35	30-57	44-38	3-82		E
27	Calgary	161 "	·026	·002						
28	Saunders	69,700 "	11·39	1·827						
29	Yellow Head	529,319 "	86·45	3·322	2-5	18-6	57-8	13-4	11,680	G
	Total	611,951								

BITUMINOUS AND ANTHRACITE

30	Crowsnest Pass	984,574 "	45·33	17·34	4-77	24-1	64-40	12-43	12,410	C
31	Canmore	157,108 "	7·23	2·767	1-86	13-46	80-43	3-42		E
32	Brazeau	315,085 "	14·50	5·547	0-9	17-93	66-95	15-04	13,203	G
33	Jasper Park	324,098 "	14·92	5·708	1-3	18-6	67-8	13-4	11,580	G
34	Mountain Park	353,384 "	16·27	6·226	3-2	26-5	62-6	8-43	12,306	G
35	Banff	37,243 "	1·71	·655						
	Total	2,171,632								

Note "M" denotes "Moisture Content"; "V" denotes "Volatile Combustible"
"F" - "Fixed Carbon" "A" " "Ash"
"B.T.U" denotes "British Thermal Units"
Authority "C" denotes "McGill University. (Investigations by Porter, Derby & Ells, Vol. 13)
"D" " Mines Branch No 331 - 1915.
"E" " Memoir 53 No. 44 Geo. Survey, D.B. Dowling 1914
"G" Various Sources believed by Compiler to be correct.

Note. Except in Numbers 2 and 3, Sub-Bituminous is grouped with Bituminous and Anthracite. See Memo.

(3)

Graph showing the Lignite and Bituminous Fields in order of production represented in percentages and Tonnage.

LIGNITES OR DOMESTIC

Field	Percentage	Tonnage
Drumheller	38·76	1,122,055
Lethbridge	17·68	511,872
2 Combined	56·46	1,633,927
Clover Bar	14·22	411,768
3 Combined	70·68	2,045,695
Edmonton	3·68	106,707
4 Combined	74·36	2,152,402
Cardiff	3·41	98,731
5 Combined	77·77	2,251,133
Pembina	3·40	98,590
6 Combined	81·17	2,349,723

Leaving 18·8% or 544,547 tons distributed among 18 fields, on average per field of 30,252 tons or slightly over 1% per field. If however, Taber, Camrore and Tofield are included, their sales combined, amount to 211,701 Tons or 7·24% leaving 332,846 Tons or 11·59% in the 15 fields or 22,000 Tons or 0·77% per field.

SUB-BITUMINOUS

This is a classification initiated in 1923. Adjoining Pincher Creek and High River formerly classed as Lignite, changed to Bituminous and included in Bituminous

Yellowhead	86·45	529,319
Saunders	11·39	69,700
2 Combined	97·84	599,019
Pincher Creek	1·76	10,811
3 Combined	99·60	609,830

Leaving High River and Calgary 0·36% or 2,101 Tons

BITUMINOUS AND ANTHRACITE

Crowsnest Pass	984,574
Mountain Park	353,384
2 Combined	1,338,098
Jasper Park	324,098
3 Combined	1,662,196
Brazeau	315,085
4 Combined	1,977,281
Canmore	157,108
5 Combined	2,134,389
Banff	37,243
Total	2,171,632

(4)

Graph showing where the Lignite or Domestic Coals were disposed of outside the Province, viz:- B.C. Saskatchewan, Manitoba, Ontario, and the United States, showing Sales in Tonnages and Percentages. (Note particularly the headings concerning the percentages)

LIGNITE OR DOMESTIC SALES FOR 1922

Fields	Amount Exported	% of total Sales of each Kind	% of total Sales of all Kinds	BRITISH COLUMBIA.	% of total Sales of Kind	% of total Sales of all Kinds	SASKATCHEWAN	% of total Sales of Kind	% of total Sales of all Kinds	MANITOBA	% of total Sales of Kind	% of total Sales of all Kinds	ONTARIO	% of total Sales of Kind	% of total Sales of all Kinds	UNITED STATES	% of total Sales of Kind	% of total Sales of all Kinds	RAILWAYS	% of total Sales of Kind	% of total Sales of all Kinds
	1,658,224	3,178,187		69,701 tons or 18·82% of total Sales			1,166,846 or 66·34% of total Sales			436,937 or 24·84% Total Sales			20,649 or 1·18% Total Sales			18,453 or 1·05% Total Sales					
Drumheller	895,934	51·26	28·18	18,264	26·23	1·11	563,600	51·01	34·16	278,670	68·42	18·10	10,301	49·88	0·63	4,609	24·97	0·28	0·14		
Lethbridge	371,430	22·53	11·70	27,025	38·37	1·64	293,785	26·59	17·80	43,661	10·00	2·65	865	4·18	0·05	6,294	34·10	0·38	0·20		
Clover Bar	90,727	5·50	2·86	3,089	4·43	0·19	65,378	5·01	3·94	21,076	4·82	1·28	1,018	4·93	0·06	64	0·35				
Pembina	75,827	4·60	2·39	16,505	23·68	1·00	23,954	2·16	1·45	30,242	6·92	1·83	0·95	4,644	22·50	0·28	0·14	506	2·72	0·03	0·02
Tofield	44,509	2·70	1·40	40			38,798	3·48	2·41	4,651	1·64	0·28	0·14								
Taber	39,193	2·37	1·23	1,082	1·56	0·06	34,648	2·82	1·48	3·077	8,596	1·96	0·82	0·27	528	2·56	0·03	0·01	4,349	23·47	0·26	0·13
Camrose	24,786	1·51	0·79	Nil.	Nil	Nil	20,674	1·87	1·28	4,247	0·97	0·26	0·13	65	0·31						
Cardiff	17,869	1·08	0·56	Nil.	Nil	Nil	14,611	1·32	0·89	0·46	3	0·74	0·26	0·10							
Big Valley	6,491	0·39	0·20	32			5,678	0·44	0·36	0·15	1,231	0·35	0·09	0·04							
Edmonton	4,253	0·36	0·20	30			3,349	0·38	0·30	1·06	2,874	0·66	0·18	0·91							
Bantonite-14 Fields	77,370	4·69	2·43	3,534	5·14	0·22	50,241	4·55	3·25	1·58	17,692	4·05	1·07	0·55	3,228	15·63	0·20	1·00	2,615	14·17	0·16	0·08
Total	1,650,224	100·00	51·94	68,701	99·83	4·33	1,166,846	83·57	64·56	35·69	436,473	99·95	24·66	14·52	20,649	100·00	1·25	1·53	18,483	99·96	1·11	0·57

(5)

Graph showing where the Bituminous and Anthracite Coals were disposed of outside the Province, viz:- B.C. Saskatchewan, Manitoba, Ontario, U.S. and Railways, showing sales in percentages and tonnage. The percentage allotted for Railways consumption outside the province is assumed at 50% of the Total.

BITUMINOUS AND ANTHRACITE SALES FOR 1922

Crowsnest Pass	530,030	34·49	16·68	10,386	33·13	0·48	0·33	54,770	20·86	3·60	1·73	11,737	13·99	0·77	0·37	92	9·66			86,640	99·58	5·67	2·72	366,385	34·86	24·00	11·53
Yellowhead	280,732	18·35	8·83	13,279	34·45	0·87	0·42	237,872	10·24	1·50	0·86	42,344	50·40	2·77	1·33	405	43·83	0·03						154,472	18·79	12·93	6·21
Mountain Pk	263,139	17·22	8·28	11,516	30·08	0·75	0·36	157,422	59·05	10·38	4·95	9,122	10·85	0·60	0·29									85,075	8·09	5·57	2·40
Jasper Park	161,855	10·60	5·09	3·04	0·80	0·02		2·46	0·69	0·01						34	3·68							161,271	15·34	10·56	5·08
Brazeau	154,490	10·11	4·86					37	0·01															154,453	14·69	10·11	4·86
Canmore	74,545	4·88	2·34	221	0·60	0·01		1,794	0·67	0·11	0·05	174	0·19	0·01										72,356	6·88	4·73	2·28
Anthracite	16,352	1·07	0·52	12·88	3·36	0·08	0·04	734	0·30	0·05	0·02	10	0·01							70			1	14,235	1·35	0·93	0·45
Saunders	69,731	2·99	1·46	727	1·89	0·05	0·02	23,923	9·06	1·36	0·75	20,658	24·56	1·35	0·65	395	42·53	0·03	0·01	50							
Pincher Creek																				361	0·34	0·01	0·01				
High River and Calgary	382	0·01	0·01	553	1·45	0·04	0·02	128	0·04																		
Total	1,527,263	100·00	48·06	38,277	100·00	2·50		244,483	100·00	17·43		84,045	100·00	5·50		924	100·00	0·06		86,991	99·92	5·68		1,051,251	100·00	68·83	
Grand Total	3,178,187		100·00	107,980				1,411,249				520,518				21,573				105,514				1,051,251			

(14)

ALBERTA AND SOUTH-EASTERN BRITISH COLUMBIA, COMBINED

Note. The Bituminous Field of Southern Alberta and South Eastern British Columbia are one and the same field. Interests are interlocking. Therefore it would be logical and advisable to combine them.

Scale:- 1" equals 600,000 Tons

Lignite or Domestic:- 2,894,220 Tons or 46·1% of Total | Sub-Bituminous, 611,951 Tons | Bituminous and Anthracite (Alberta) 2,171,632 Tons or 34·6% | B.C. 597,628 Tons

Total Tonnage equals 6,275,431 Tons, or 100%

B.C. BITUMINOUS

Showing where produced and Shipped to. Total Output 597,628 Tons.

FIELD	OUTPUT OF FIELD	UNITED STATES SALES	CANADIAN SALES
Coal Creek	306,866 Tons or 51%	214,513 Tons or 53·7%	30,347 Tons or 45·55%
Michel	232,866 " " 39%	140,209 " " 35·2%	32,237 " " 46·55%
Corbin Coal and Coke Company	59,896 " " 10%	44,157 " " 11·1%	15,739 " " 7·3%
Total	597,628 " " 100%	398,885 " " 100%	139,383 " " 100%

Analysis	M	V	F	A	B.T.U.	Authority
	0·87	25·38	60·32	5·53	14,658	Crowsnest Coal Coal Company, Ltd.
	0·80	24·52	67·45	7·23	14,172	" " " 1923.

(9)

LIGNITES AND BITUMINOUS
Total Output for 1922- BC Combined
Scale:- 400,000 Tons = 1"

Jan.	657,159 Tons
Feb.	429,734 Tons
March	416,497 Tons
April	330,498 Tons
May	372,744 Tons
June	366,375 "
July	413,196 Tons
Aug.	450,885 Tons
Sept.	370,070 Tons
Oct.	402,564 Tons
Nov.	394,329 "
Dec.	706,689 Tons

Lignites shown ——
Bituminous - - - -

Graph showing the total output of Lignites and Bituminous Coals for each month of the years by percentages, taking the average monthly production as 100. (As there was a strike during 1922, the combined production of 1920 and 1921 is taken on which to base the percentages.

(6)

Scale.
Horizontal:- 1" = 2 Months.
Vertical :- 1" = 10%

Average output for two years taken as 100%

JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Graph showing the Five chief mines of the Lignite production showing the output for each month of the year, taking 100 as the average monthly production and basing it as in No. 6, on the combined production for the years 1920 and 1921

(7)

Scale.
Horizontal:- 1" = 2 Months
Vertical :- 1" = 30%

Average output for period taken as 100%

JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Graph showing the six chief mines of the Bituminous production, showing the output for each month of the year, taking 100 as the average monthly production, and basing it as in No's 6 and 7, on the combined production for the years 1920 and 1921
Note These six fields practically cover the entire production.

(8)

Scale.
Horizontal:- 1" = 2 Months
Vertical :- 1" = 20%

Average output for period taken as 100%

JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

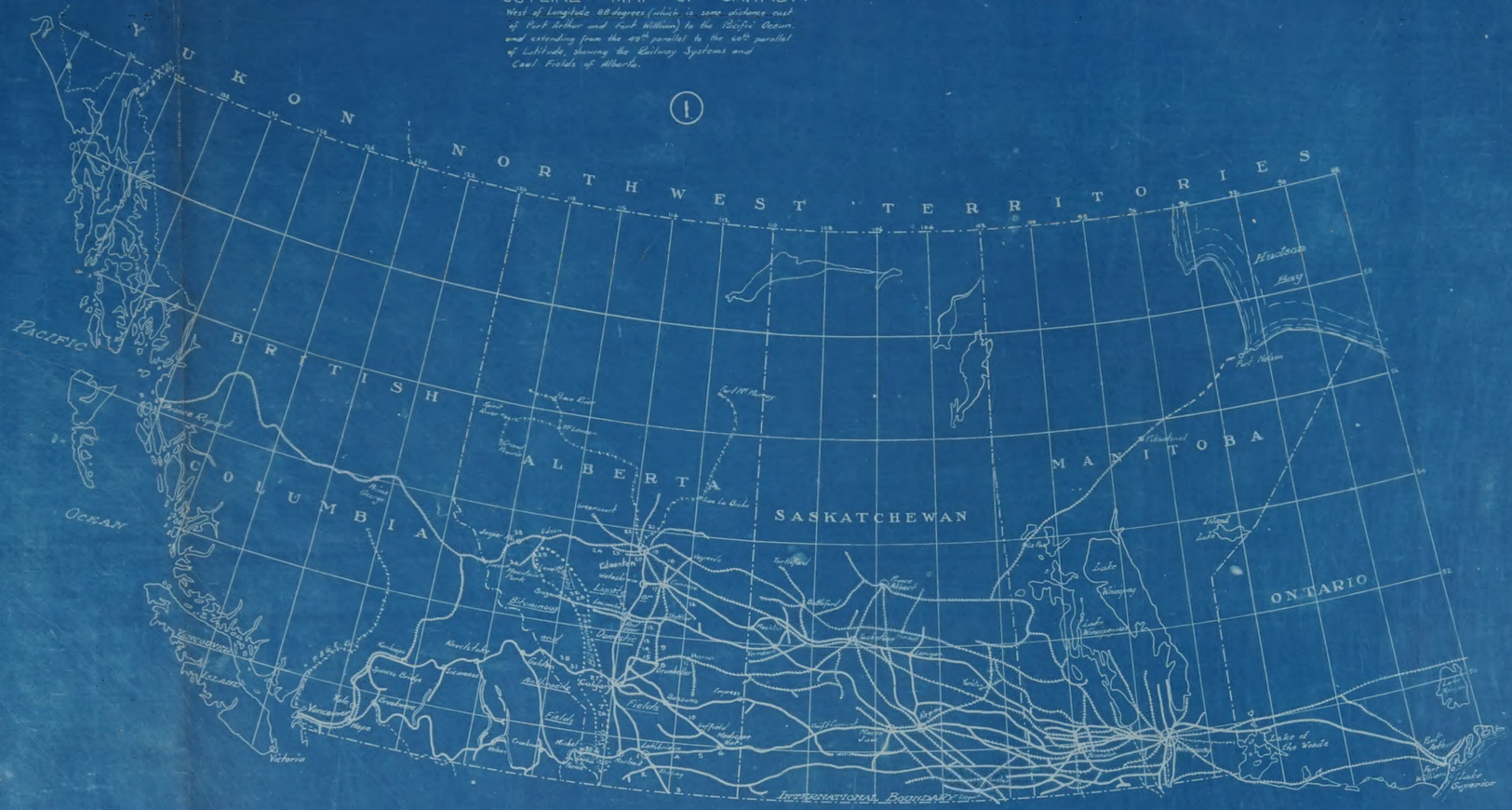
Legend. No. 1. denotes Drumheller and is shown thus :-
No. 2. " Lethbridge " " " "
No. 3 " Clover Bar " " " "
No. 4. " Cardiff " " " "
No. 5 " Pembina " " " "

Legend. No. 1 denotes Crowsnest Pass and is shown thus :-
No. 2 " Canmore " " " "
No. 3 " Brazeau " " " "
No. 4 " Jasper Park " " " "
No. 5 " Yellowhead " " " "
No. 6 " Mountain Park " " " "

GENERAL MAP OF CANADA

West of Longitude 88 degrees (which is some distance east of Port Arthur and Fort William) to the Pacific Ocean, and extending from the 49th parallel to the 60th parallel of Latitude, showing the Railway Systems and Coal Fields of Alberta.

(1)


Y U K O N
N O R T H W E S T T E R R I T O R I E S
Hudson Bay
B R I T I S H C O L U M B I A
A L B E R T A
SASKATCHEWAN
M A N I T O B A
ONTARIO
PACIFIC OCEAN
Port Nelson
Edmonton
Calgary
Lethbridge
Fields
Vancouver
Victoria
Lake of the Woods
Port Arthur
Lake Superior
INTERNATIONAL BOUNDARY

LEGEND

Canadian National Railway System.	shown thus:	———
Canadian Pacific Railway.	" "	———
Edmonton, Dunvegan and B.C. Rly. and Canada Central Rly.	Provincial Railways of Alberta.	— — —
Alberta and Great Waterways Railway.	" "	— · — · —
Lacombe and North Western Railway	" "	— — — — — —
Great Northern Railway	" "	— — — — — —
Winnipeg Waterways Railway	" "	— · — · — · —

(2)

LIGNITES OR DOMESTIC

No.	Field	Total Sales	% of total sales of kind	% of total sales of all kinds	Analysis M	V	F.C.	A	B.T.U.	Authority	Fields
1	Lethbridge	511,872 Tons	17·68	9·91	11·7	34·58	47·14	6·58	9,760	C	Taking Fernie accounts
2	Magrath	3,137 "	·108	·005	5·91	38·01	44·75	11·33	8,287	E	Drumheller
3	Milk River	8,816 "	·285	·185	8·91						Lethbridge
4	Taber	53,057 "	1·83	·894	10·7	31·77	44·48	13·05	8,490	C	E. Coulee
5	Bow Island	5,889 "	·203	·136	13·14	29·84	44·32	12·72	7,605	E	Clover Bar
6	Medicine Hat	30,965 "	1·07	·565	9·46	33·47	49·25	7·81	8,831	E	S. Coulee
7	Aldersyde	11,872 "	·41	·209	10·12	35·91	50·84	4·78	9,185	G	Edson
8	Drumheller	1,182,055 "	38·76	19·76	10·0	38·6	45·4	6·0	9,460	D	A. Coulee
9	Big Valley	36,860 "	1·246	·635	13·14	36·29	45·78	9·54		E	
10	Brooks	15,272 "	·527	·268							S. Coulee
11	Hanna	40,056 "	1·38	·705							Bow Island
12	Lacombe	15,706 "	·542	·276	14·7	31·0	45·45	11·45	8,714	G	G. Coulee
13	Trochu	17,373 "	·603	·307	15·4	35·1	49·3	6·6	8,295	G	
14	Three Hills	41,057 "	1·418	·723	11·79	36·72	50·12	6·6		G	Hanna
15	Carbon	38,052 "	1·31	·67	10·57	37·44	45·34	7·72		D	Lacombe
16	Battle River	22,302 "	·773	·394	15·5	33·76	46·52	14·44	8,266	G	Battle River
17	Camrose	75,513 "	2·605	1·27	14·8	31·44	45·76	9·05	8,340	G	Camrose
18	Tofield	84,131 "	2·906	1·51	12·6	39·8	43·7	9·5	7,991	D	Tofield
19	Clover Bar	411,768 "	14·22	7·25	10·0	37·0	46·0	7·0	8,900	D	Clover Bar
20	Edmonton	106,707 "	3·68	1·88	8·97	33·41	49·05	8·53	8,486	C	Edmonton
21	Namao	7,991 "	·276	1·40							Namao
22	Cardiff	98,731 "	3·41	1·738	13·9	31·4	48·9	7·0	8,870	D	Cardiff
23	Wabamun	38,112 "	1·38	·671	14·8	31·92	45·9	7·9	8,554	G	Wabamun
24	Pembina	98,580 "	3·40	1·735	9·5	39·13	45·85	8·53	8,660	D	Pembina
	Total	2,894,220									

SUB-BITUMINOUS

25	Pincher Creek	10,811 Tons	1·74	·19	3·8	13·34	38·4	18·81	6,960	C	Pincher Creek
26	High River	1,960 "	·32	·034	2·95	16·67	40·58	2·82		E	High River
27	Calgary	161 "	·026	·002							Calgary
28	Saunders	69,700 "	11·39	1·227	4·6						Saunders
29	Yellow Head	529,319 "	86·49	9·322	2·3	18·5	37·3	33·4	11,280	G	Yellow Head
	Total	611,951									

BITUMINOUS AND ANTHRACITE

30	Crowsnest Pass	984,574 Tons	45·33	17·34	0·77	19·1	70·41	9·41	13,940	C	Crowsnest Pass
31	Canmore	157,108 "	7·23	2·767	0·6	13·6	80·45	5·43		E	Canmore
32	Brazeau	315,085 "	14·50	5·547	0·8	17·84	68·98	12·34	13,205	G	Brazeau
33	Jasper Park	324,098 "	14·92	5·708	1·3	18·9	67·8	12·0	13,320	G	Jasper Park
34	Mountain Park	383,584 "	16·27	6·226	0·5	16·5	69·0	14·5	13,960	G	Mountain Park
35	Banff	37,243 "	1·71	·655							Banff
	Total	2,171,632									

Note "M" denotes "Moisture Content". "V denotes Volatile Combustible.
"F " "Fixed Carbon" "A " "Ash"
"B.T.U" denotes "British Thermal Units"

Authority "C" denotes "McGill University. (Investigations by Baker, Dunlop & Ells, Vol. 13)
"D" " " Mines Branch № 331 - 1915.
"E" " " Memoir 53 No. 44 Geo. Survey, D.B. Dowling 1914
"G" Various Sources believed by Compiler to be correct.

Note. Except in Numbers 2 and 3, Sub-Bituminous is grouped with Bituminous and Anthracite Sales

Sales equal 38·78% of the total output of Lignites
and 36·40% " " " " Bituminous

#74

1922

1922

WRA-1974-169-8100-001-025

Y U K O N

N O R T H W E S T T E R R I T O

B R I T I S H

C O L U M B I A

A L B E R T A

SASKATCHEWAN

M A N

N O R T H W E S T T E R R I T O R I E S

I S H

A L B E R T A

S A S K A T C H E W A N

M A N I T O B A

B I A

Hudson Bay

ALBERTA

SASKATCHEWAN

MANITOBA

BRITISH COLUMBIA

Lake Superior

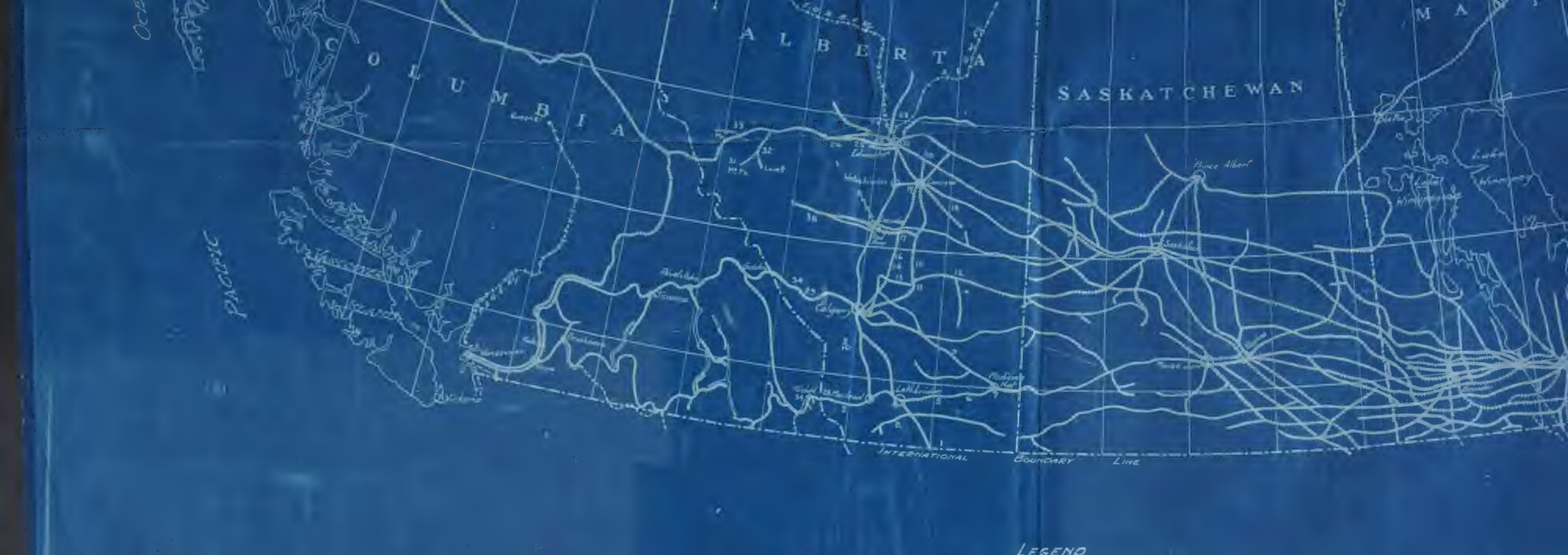
International Boundary Line

LEGEND

National Railway System	Shown thus	———
Pacific Railway	"	———
Dunvegan and British Columbia Railway	"	———
Central Railway	"	———
Great Waterways Railway	"	———
and North Western Railway	"	———
Northern Railway	"	———
Hudsons Bay Railway	"	———

(Provincial Railways of Alberta)

(Winnipeg District Railway)



LEGEND

Canadian National Railway System	shown thus	+++++++++++++++++++++
Canadian Pacific Railway	" "	———————————
Edmonton, Dunvegan and British Columbia Railway and Canada Central Railway	" "	
Alberta and Great Waterways Railway (Provincial Railways of Alberta)	" "	—x—x—x—x—x—x—x—x—x—x—
Lacombe and North Western Railway	" "	
Great Northern Railway	" "	- - - - - - - - - - - - - - - - - -
Winnipeg Waterways Railway (Winnipeg District Railway)	" "	—|—|—|—|—|—|—|—|—|—|—|—

COAL · OUTPUT · OF · ALBERTA

1921

Authority for Production, Disposition, when and where produced :- Mines Branch of the Province
Graph Number 72 Calgary, Alberta. 11th N

Note. The Anthracite total output was 96,674 Tons of which 62,466 tons went into Briquettes. was used in Colliery Boilers, sales, etc, as coal. The Sales being 19,607 Tons. Of Briquettes manufac Approximately 74% of the whole were used for Railway Purposes.

(1) LIGHTES (Page 25 of Mines Branch Report)

No.	District	Total Sales	Percentage of total Sales of kind.	% of Total Sales of L.&B.	Analysis M	V	F	A	B.T.U.	
1	Milk River	6,648 Tons	0·22	0·11	3·91					
2	Magrath	2,525	0·09	0·04	3·91	38·61	46·75	9·33	9,881	C
3	Coutts Crook	1906	0·29	0·14	4·6	28·96	58·47	7·97	7,810	C
4	Lethbridge	571,384	28·60	13·90	1·7	34·54	47·43	16·33	11,710	C
5	Taber	35,117	1·18	0·57	2·1	31·77	44·06	22·07	10,050	C
6	Bow Island	6,618	0·17	0·08	1·64	30·76	46·27	5·87	9,259	E
7	Medicine Hat	15,600	0·68	0·27	4·06	33·87	50·28	5·51	8,833	E
8	Bindloss	2,840	0·33	0·16	8·57	32·00	53·44	6·78	10,187	G
9	Orion	17,483	0·54	2·27						
10	Red Deer	1,200	0·05	0·02	2·33	35·17	56·68	5·82		E
11	Drumheller	704,629	34·50	17·11	6·4	33·6	51·8	6·5	7,450	D
12	Nacmine	38,998	1·79	0·93						
13	Carbon	21,364	0·93	0·21	1·37	35·64	45·42	7·72		E
14	Three Hills	16,758	0·79	0·42	1·39	30·75	51·35	6·2		G
15	Olds	39,388	2·05	1·02	1·26	30·79	48·79	9·26		E
16	Didsbury	28,380	0·65	0·35	1·6	32·1	49·3	4·9	10,000	G
17	Innisfail	17,892	0·34	0·87	1·87	31·17	52·93	14·03	8,769	G
18	Lacombe	14,756	0·69	0·34	1·14	33·75	49·93	4·66	9,369	G
19	Battle River	14,481	2·35	1·22	1·8	31·22	45·13	4·65	9,361	G
20	Camrose	40,929	1·88	0·97	22·4	31·8	36·7	9·1	7,970	D
21	Edmonton	22,268	1·16	0·58						
22	Clover Bar	237,416	10·36	5·24						
23	Edmonton	82,208	3·68	1·77	19·72	36·61	42·05	2·39	6,000	C
24	Namao	7,262	2·26	0·13						
25	Cardiff	43,185	4·70	2·30	20·0	36·6	40·4	3·0	8,770	D
26	Wetaskiwin	25,917	1·95	1·48	6·4	39·42	46·13	8·07	8,334	G
27	Pembina	49,760	2·46	2·10	17·6	29·22	43·85	9·33	7,090	D

BITUMINOUS

28	Coal Creek	1,062,324	4·92	2·21	4·77	18·01	32·49	44·73	13,410	C
29	Canmore	176,184	16·35	2·21	1·45	13·41	82·02	3·41		E
30	Anthracite	418,985	13·12	8·56	1·45	17·53	48·35	33·64	13,453	G
31	Bankhead	282,344	10·42	5·83	3·6	18·2	62·4	15·8	12,300	G
32	Mountain Park	220,833	8·82	4·87	2·3	18·9	77·8	2·4	13,280	G
33	Luscar	248,427	9·22	4·47	2·3	18·8	57·8	21·9	11,388	G

Page 26 Mines Branch Report

(2) (Omitting Anthracite) Total Output of Coal for 1921 = 5,937,195 Tons or 10·85

(Omitting Anthracite) Total Sales of Lignite and Bituminous Coal for 1921 = 5,469,097 Tons or

Lignites = 2,707,046 Tons or 4·95 inches. Bitumin = 2,762,051 T

Lignites Sold	Sold in Alberta.	44·2% of kind 21·9% of Total	1,173,286 Tons.	Bituminous Sold	Sold in Alberta.
	B.C.	1·0% of kind 0·5% of total	27,309 Tons.		B.C.
	Sask.	37·2% of kind 18·4% of total	1,007,393 Tons.		Sask.
	Man.	15·1% of kind 7·6% of total	408,414 Tons		Man.
	Ont.	0·2% of kind 0·1% of total	6,828 Tons.		Ont.
	U.S.	1·2% of kind 0·6% of total	33,085 Tons.		U.S.
	Railways	Nil of kind Nil of total	Nil.		Railways
	Total	39·0% of kind 43·4% of total	2,707,046 Tons.		Total

LIGNITES Page 25 of

(3) The Five largest Districts which represent 81·6% of its kind or 40·4% of Total Coals so

3rd Lethbridge = 25·6% Drumheller = 34·5% Clover Bar = 12·5%

Of the foregoing Districts, the following is the Distribution represented in percentages of their Total Sales among

	Lethbridge 3rd	Drumheller 1st	Clover Bar 2nd
Alberta	24·6%	24·2%	16·2%
British Columbia	3·5%	1·3%	1·1%
Saskatchewan	56·0%	46·7%	4·4%
Manitoba	12·2%	27·3%	18·7%
Ontario	0·2%	0·4%	17·5%
United States	3·6%	11·06%	Nil
Railways	Nil.	Nil.	Nil.
Total	100·0% = 693,386 Tons	99·96% = 934,629 Tons	100·0%

Total 2,203,530 Tons or 81·4% of kind or 40·4% of Total Coal Pro

(4) EXPORTED FROM ALBERTA

ALBERTA

Mines Branch of the Province of Alberta - 1921
11th November 1922.

tons used into Briquettes. The Balance
ons of Briquettes manufactured 173 46,016 Tons
ners.

= 3,937,195 Tons or 10·85 Inches

for 1921 = 3,762,051 Tons or 100% or 10"

2" Bituminous = 3,762,051 Tons or 10·85 Inches

Bituminous Sold	Sold in Alberta	7·66%	of kind	207,324 Tons
		3·8%	of total	
	B. C.	2·2%	of kind	61,716 Tons
		1·1%	of total	
	Sask.	10·3%	of kind	284,015 Tons
		5·2%	of total	
	Man.	3·1%	of kind	86,528 Tons
		1·6%	of total	
	Ont.	0·1%	of kind	3,070 Tons
		0·05%	of total	
	U. S.	3·6%	of kind	100,330 Tons
		1·8%	of total	
	Railways	73·1%	of kind	2,016,444 Tons
		36·9%	of total	
	Total	99·9%	of kind	2,762,051 Tons
		50·45%	of total	

(5)

Note

See Page 25 of Mines Branch Annual Report 1921. It will be observed that the Lignite Production is divided into 26 Fields, of which there are Five which have a Sales of upwards of 100,000 Tons per annum. There are Six more which have a Sales of upwards of 30,000 Tons per annum, leaving Fifteen districts which vary in Sales from 1,400 to 26,000 Tons. The latter however altogether represent only 6·86% of the total Sales of the Lignite Coals and therefore we will omit them.
The six above mentioned having Sales of upwards of 30,000 Tons and under 100,000 - varying from 82,000 Tons down to 32,000 Tons per annum, and the combined Sales is 11·54% of the Sales of Lignites which added to the 81·6% already alluded to makes in all 93·14%, leaving 6·86% among the remaining Fifteen Districts
The Five Fields alluded to are shown with their respective Sales which represent 81·6% of the Total Sales in Table #3

INDEX

Tables

"A" Analysis. 1a
"B" Anthracite (See note and also No 9.
Bituminous. 1, 1b, 2, 2b, 6, 7, 8, 9
Brazeau. 1a, 6, 6d, 7, 7d, 9.
British Columbia. 8

"C" Cardiff. 1a, 3a, 3f, 4c
Canmore. 6, 6e, 7, 7d, 9.
Clover Bar. 1a, 3a, 3e, 4d 9
Crows Nest. 6, 6b, 7, 7c 9
Corbin Mine. 8
Crowsnest Pass Coal Co. 11

"D" District or Field. 1a
Distribution of Lignites. 2a 4a, 4b, 4c, 4d, 4e, 4f, 9
" " Bituminous. 2b
Disposal of Lignites. 2a 9
" " Bituminous. 2b 9
Drumheller. 1a 3a, 3d 4c 9

"E" Exports from Alberta to what points and from what Districts (Lignites). 4a, 4b, 4c, 4d, 4e, 4f 9
Exports from Alberta to what points and from what Districts (Bituminous). 7, 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h 9

"J" Jasper Park. 6, 6c, 7, 7c 9

"K" Kootenay (East) 8

"L" Lignites. 1, 1b, 2, 2a, 2, 4, 9
Lethbridge. 3a 3c 4c 9

"M" Mountain Park. 6, 6c, 7, 7c 9

"P" Percentages. 1a, 1c, 2a, 2b
Provinces 2a, 2b, 3a, 3c, 6, 6c 7
Plumbing. 3a, 3e 4c 9
Percentage of total Sales of kind in Districts 1a, 2a, 2b
Percentages of Sales of kind to the various points from the chief Mining Centres 1a, 2a, 2b
Percentage of total Sales 1a, 3a, 3e
Percentage distributed from the five largest Mining Districts of Lignites. 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h
Percentage distributed from the Five largest Mining Districts of Bituminous. (All) 6, 6a, 6b, 6c, 6d, 6e, 6f, 6g
Percentage of Total approx. shipped to different points

Note page 25 of Mines Branch Report

40·4% of Total Coals sold

Clover Bar = 12·5% Cardiff Plumbing 4·7% of 37·8%

of their Total Sales among the various points.

	Edmonton	Clover Bar	Calgary	Other Points
Drumheller 31%	86·9%	3e 20%	20%	3d 28·8%
	9·17%	3a 33·3%	33·3%	4c 33·3%
	3·93%	28·7%	6·1	4d 77·8%
	4·18%	16·13	1·8%	4e 23·2%
	6·17%	3a	Nil	4d 100·0%
	Nil	—	Nil	Nil
	Nil	—	Nil	Nil
	99·7%	Nil	Nil	100·0%
	100·0% = 347,499			

of 46·4% of Total Coal Production

BITUMINOUS (Page 26 of Mines Branch Report.)

(6)

The Total Bituminous Production of Alberta equals 2,762,051 Tons or 100% or 10 inches.

Crowsnest = 43·05% Canmore 6·9% Brazeau = 16·95% Jasper Pk 0·85% Mountain Park 0·14%

Of the foregoing Districts, the following is the distribution represented in percentages of their total coals sold among the various points.

	Crowsnest 43·05%	Canmore	Brazeau 16·95%	Jasper Park	Edmonton	Mountain Park
Alberta	2·2% 100,727 Tons	1·44%	4·18% 19,433 Tons	13·30%	1·45%	1·29%
B. C.	1·62% 20,010 —	1·94%	Nil	1·73%	2·2%	3·09%
Sask.	1·18% 14,520	2·76%	1·77% 8,178 Tons	Nil	2·8%	46·1%
Man.	2·88% 14,130 —	1·94%	2·44% 14,330 Tons	Nil	6·2%	1·29%
Ont.	0·25% 5,977 —	Nil	Nil	Nil	Nil	Nil
U. S.	8·88% 100,330 —	Nil	Nil	Nil	Nil	Nil
Railways	71·50% 826,102 —	86·79% 5,924 Tons	21·03% 426,384 Tons	84·97%	68·17%	43·03%
Total	99·91% or 1,202,794 Tons	194,184 Tons 99·91%	22·39% 440,405 Tons	244,04 100·0%	272,823 Tons 100·0%	100·00%

Total 2,762,051 Tons or 100·0% of kind and 39·5% of total Coal Production

EXPORTED FROM ALBERTA

Mon.	3·1%	of kind	86,548 Tons
	1·6%	of total	
Ont.	0·1%	of kind	3,070 Tons
	0·05%	of total	
U.S.	3·6%	of kind	100,330 Tons
	1·8%	of total	
Railways	72·6%	of kind	2,016,444 Tons
	36·2%	of total	
Total	99·9%	of kind	2,762,051 Tons.
	50·45%	of total	

The Five above mentioned having Sales of upwards of 50,000 Tons and under 100,000 – varying from 82,030 Tons down to 32,000 Tons per annum, and the combined Sales is 11·54% of the Sales of Lignites which added to the 81·6% already alluded to makes in all 93·14%, leaving 6·86% among the remaining Fifteen Districts

The Five Fields alluded to are shown with their respective Sales which represent 81·6% of the Total Sales in Table #3

"D" District or Field. 1°
Distribution of Lignites. 2° 4°, 4', 4°, 4', 4°, 4', 9
" " Bituminous. 2°
Disposal of Lignites. 2° 9
" " Bituminous. 2° 9
Drumheller. 1°, 2°, 2', 4° 9

"E" {Exports from Alberta to what points and from what Districts (Lignites)} 4°, 4', 4°, 4', 4°, 4', 9
{Exports from Alberta to what points and from what Districts (Bituminous)} 7, 7', 7', 7°, 7', 7°, 7', 7', 7', 7°, 9

"J" Jasper Park. 6, 6', 7, 7° 9

"K" Kootenay (East) 8

"L" Lignites. 1, 1', 2, 2', 3, 4, 9
Lethbridge. 2°, 2', 4, 9

"M" Mountain Park. 6, 6', 7, 7', 9

"P" Percentages. 1°, 1', 2°, 2'
Provinces. 2°, 2', 3', 3', 6', 6', 9
Pembina. 3°, 3', 4', 9
{Percentage of total Sales of kind in Districts} 1°, 2°, 2'
{Percentages of Sales of kind to the various points from the chief Mining Centres.} 1', 4', 6'
{Percentage of total Sales} 1', 2', 2'
{Percentage distributed from the Five largest Mining Districts of Lignites.} 2', 3', 3', 3', 3', 3', 3', 8
{Percentage distributed from the Five largest Mining Districts of Bituminous. (All)} 2, 2', 2', 6', 6', 6', 6', 6', 8
{Percentage of Total approx. shipped to different points from the Five chief Mining Districts Bituminous} 7, 7', 7', 7', 7', 7', 7', 7', 9
Percentages shipped from B.C.: Percentages of total approx. shipped to different points from the 2 chief Lignite districts} 7, 7', 7', 7', 7', 7', 7', 9

"R" Railways 2b

"S" Sales 1°, 2, 3, 4, 5, 6, 7, 8, 9
Sales of Lignites 1°, 3, 4, 9
Sales of Bituminous 1°, 2', 6, 7, 8, 9

"U" United States 2°, 2', 4°, 7°, 9

"Y" Yellowhead 6, 6', 7, 7', 9

Page 25 of Mines Branch Report.

40·4% of Total Coals sold

Clover Bar = 12·5% Cardiff 4·1% Pembina 4·5%

...es of their Total Sales among the various points.

	Clover Bar			
...haller	86·9%	323,257 Tons	20%	
	8·17%	151		
	3·58%	13,324	6·7	
	4·48%	16,656	1·8%	
	0·12%	594	Nil	
	Nil	—	Nil	Nil
	Nil	—	Nil	Nil
	100·0% = 337,482		39·7%	100%

= 40·4% of Total Coal Production

...ERTA
...ow of the total Shipments of Kind to said destinations from Points specified

	Clover Bar	Cardiff	Pembina	Shipped to	Tons	Crowsnest	Canmore	Jasper Pk.	Yellowhead	Brazeau	Mountain Park
...eller	Nil	Nil	4'	U.S	100,330 = 100%	99·8% 100,380 Tons	Nil	Nil	Nil	31 Tons	Nil
	571 Tons	Nil	Tons 205	Ont.	3,070 = 100%	27·0% 2,277 Tons	Nil	Nil	53 Tons	86 Tons	Nil
	2·4% 16,108	6,972 Tons	6·4% Tons 4,351	Mon.	86,548 = 100%	39·50% 34,197 Tons	0·08% 107 Tons	Nil	21·5% 18,598 "	16·5% 14,280 "	32·6% 28,481 Tons
	3·2% 28,951	11,618 Tons	2·4% 1,644 Tons	Sask.	284,918 = 100%	26·20% 74,351 Tons	2·6% 7,365 "	1·7% 4,820 "	10·0% 28,779 "	3·0% 8,477 "	58·8% 167,185 "
	11,922	226	33 Tons	B.C.	61,710 = 100%	32·60% 20,120 "	2·7% 1,726 "	0·43% 270 "	39·2% 24,027 "	30% 18,477 "	18·6% 11,467 "
					536,673 Tons						

...of the Total shipped to the United States.
...Tofield sent 1·5% of the total

BITUMINOUS

Page 26 of Mines Branch Report.

The Total Bituminous Production of Alberta equals 2,762,051 Tons or 100% or 10 inches.

Crowsnest = 43·55% Canmore 4·39% Brazeau 15·35% Jasper Pk. 6·82% Yellowhead 10·4% Mountain Park 19·49%

Of the foregoing Districts, the following is the distribution represented in percentages of their total sold among the various points

	Crowsnest 43·55%	Canmore 4·39%	Brazeau 15·35%	Jasper Pk. 6·82%	Yellowhead 10·4%	Mountain Park 19·49%
Alberta	9·22% 116,787 Tons	2·44% 3,000 Tons	2·03% 15,453 Tons	35,918 Tons	21,421 Tons	6,178 Tons
B.C.	1·67% 20,120 "	0·39% 480 "	Nil	1·72% 2,120 "	2·8% 3,440 "	1·2% 1,477 "
Sask.	5·18% 24,591	0·96% 456 "	1·77% 8,378 "	Nil	2·35% 11,159 "	46·1% 218,736 "
Mon.	0·84% 14,121 "	0·08% 1,345 "	0·42% 7,016 "	Nil	0·32% 5,376 "	0·32% 5,376 "
Ont.	0·25% 2,277 "	Nil	Nil	Nil	Nil	Nil
U.S.	3·32% 100,380 "	Nil	Nil	Nil	Nil	Nil
Railways	71·50% 860,102 "	94·13% 107,948 Tons	71·63% 476,384 Tons	89·37% 102,638 Tons	68·19% 72,633 Tons	42·63% 48,844 Tons
Total	99·72% or 1,202,178 Tons	99·91% 114,184 Tons	99·20% 448,648 Tons	244,248 Tons 100·0%	292,823 Tons 100·0%	100·0% 114,467 Tons

= Total 2,762,051 Tons or 100·0% of kind and 58·0% of total Coal Production

EXPORTED FROM ALBERTA

Approximate Percentages the amounts shipped to the different Destinations are of the Total Shipments of Kind to said destinations from point specified

Crowsnest Pass Sales 339,348 Tons — Carbon Sales 339,834 Tons — 685,236 Tons

Sold in Canada 104,362 Tons or 15·23% of Total — Sold to U.S. = 580,698 Tons = 84·77% — 685,236 Tons

Total Output Bituminous. — Alberta = 2,762,051 Tons or 80·1% — B.C. 685,236 Tons or 19·9% — 3,447,287 Tons or 100%

TOTAL SALES

Bituminous Sales Total 2,762,051 Tons — Anthracite 80,837 Tons

Total $549,934 Tons

Sold in Others = 532,855 Tons

5 Tons.

BITUMINOUS AND ANTHRACITE SALES OUTSIDE OF ALBERTA

Crowsnest Pass	441,776 Tons
Mountain Park	271,124 "
Brazeau	235,820 "
Yellowhead Pass	131,384 "
Jasper Park	107,399 "
Canmore	90,172 "
Anthracite	43,270 "
TOTAL	1,587,165 Tons

LIGNITE SALES OUTSIDE OF ALBERTA

Drumheller	748,715 Tons
Lethbridge	322,640 "
Pembina	72,007 "
Clover Bar	69,322 "
Big Valley	41,849 "
Taber	22,537 "
Comrose	19,308 "
Tofield	17,410 "
Cardiff	12,323 "
Balance 16 Fields	44,361 "
TOTAL	1,507,666 Tons

19	Coronado	8,840										
20	Drumheller	1,498,982	0·54	0·27								
21	Hand Hills	1,800	0·05	0·02	2·53	35·37	54·68	5·82			E
22	Drumheller	334,693	34·30	17·11	6·9	17·4	63·4	6·8	7,440		D
23	Delia	32,678	1·19	0·59							
24	Carbon	14,364	0·93	0·21							
25	Three Hills	16,758	0·59	0·49	11·70	50·75	31·55	6·0			G
26	Cochrane	57,381	2·05	1·06	17·26	29·79	48·95	3·95			E
27	Cowley	17,092	0·65	0·20	12·2	32·1	49·3	6·4	11,000		G
28	Lacombe	16,260	0·54	0·27	14·7	34·7	42·03	8·57	8,240		G
29	Battle River	9,661	0·33	0·34	11·0	36·75	44·97	6·45	5,744		G
30	Camrose	21,915	0·85	0·22	6·8	34·86	48·13	6·35	9,216		G
31	Big Valley	23,000	1·00	0·31	16·0	43·8	36·7	3·5	7,750		D
32	Edson Area	335,000	12·00	8·20							
33	Edmonton	30,000	1·03	1·51	11·77	34·66	49·16	4·41	11,000		C
34	Athmore	1,807	0·22	0·18							
35	Tofield	124,486	4·20	2·30	2·2	31·6	60·4	6·0	8,770		D
36	Wetaskiwin	21,957	0·76	0·48	6·4	31·95	46·15	4·5	9,330		G
37	Pembina	117,294	4·20	2·10	12·4	29·44	49·86	9·30	7,860		D

BITUMINOUS

Page 26 Mines Branch Report.

38	Canmore/Pit	1,288,279	43·05	21·50	4·71	18·1	62·91	6·42	14,000		C
39	Canmore	136,164	4·92	2·47	2·05	13·01	82·42	2·44			E
40	Bankhead	418,985	14·35	8·66	7·91	17·99	68·69	5·41	14,605		G
41	Bankhead East	348,341	13·18	9·43	9·5	24·8	62·6	4·3	14,200		G
42	Bellevue	238,803	10·60	5·98	2·3	19·6	67·6	10·4	13,350		G
43	Lower Bank	244,441	8·85	9·97	6·3	28·5	57·8	10·9	13,250		G

ANTHRACITE

Page 28 Mines Branch Report.

44	Bankhead	80,537									

Note "M" denotes "Moisture Content" "V" denotes "Volatile Combustible
"F" - "Fixed Carbon" "A" - "Ash
"B. T. U." denotes "British Thermal Units
Authority "C" denotes "McGill University (Investigations by Porter, Cooley, No 83, Vol. 13"
"D" " Mines Branch No 331 – 1915.
"E" " "Memoir 53 No 44 Geo. Survey, D. B. Dowling 1914."
"G" " Various Sources believed by Compiler to be correct.

Man.	15·1% of kind 7·5% of total	408,456 Tons		
Ont.	0·2% of kind 0·1% of total	6,828 Tons.		
U. S.	1·2% of kind 0·6% of total	33,036 Tons		
Railways	Nil of kind Nil of total	Nil.		
Total	99·0% of kind 49·4% of total	2,707,046 Tons.		

LIGHTITES

③ The Five largest Districts which represent 81·6% of its kind or 40·4% of Total Coals sold

Lethbridge = 28·6% Drumheller = 34·5%

Of the foregoing Districts, the following is the Distribution represented in percentages of their Total Sales among

	Lethbridge 673,584 Tons.	Drumheller 934,629 Tons.	Clover Bar 110,574 Tons.
Alberta	25·4% 170,248 Tons	24·2%	86·9%
British Columbia	8·8%	0·3%	0·7%
Saskatchewan	56·0% 387,518	46·7% 436,73	9·8%
Manitoba	12·4% 84,346	27·3% 255,32	2·8%
Ontario	0·8%	0·4%	0·2%
United States	7·4% 28,144	0·08% 720	Nil
Railways	Nil.	Nil.	Nil
Total	100·0% = 673,584 Tons	77·98% = 934,629 Tons	100·0% = 33

Total 2,707,046 Tons or 81·6% of kind or 40·4% of Total Coal Produ

EXPORTED FROM ALBERTA

④ Approximate Percentages the amounts shipped to the different Destinations are of the total shipments of Kind to such

Shipped to	Tons	Lethbridge		Drumheller		Clover Bar	
United States	33,085 = 100%	76·0%	25,144 Tons		720 Tons	Nil	
Ontario	6,828 = 100%	26·0%	1,752 Tons	58·0%	3,957 "		57 Tons
Manitoba	498,855 = 100%	2·0%	13,346 Tons	64·0%	455,327 "	1·4%	11,41
Saskatchewan	1,007,393 = 100%	38·0%	387,518 Tons	43·0%	436,732 "	2·6%	26,90
British Columbia	51,904 = 100%	47·0%	24,480 Tons	23·0%	11,922 "		224

1,507,666 Tons.

Taber sent to United States points 13% and Pincher Creek 7% of the Total shipped to th
Big Valley sent to Saskatchewan 4%, Camrose sent 1·5% and Tofield sent 1·5% of the
shipped to Saskatchewan.
Balance in small quantities from scattered points

TOTAL SALES ⑤

Lignite Sales Total 2,707,046 Tons.

Total 5,549,934 Tons

TOTAL SALES OUTSIDE ALBERTA 3,089,881 TONS.

Lignites Sold = 1,507,766 Tons. 50% of Tonnage sold to Railways = 1,034,610 Tons. Sold to Others = 552,555 Tons

Lignites Sold = 1,507,766 Tons × Bituminous and Anthracite = 1,587,165 Tons.

Note. Sales outside of Alberta Assuming 50% sold to Railways is used outside of Alberta.
No Data is available to determine what % is so used outside. It is thought 50% will be fairly approximate
Each however can readily adjust amounts to agree with what he considers should be the percentage assumed

1921

LAA-1974-169-2100-001-004

1721

1721 Aug 12

1920-21

GRAIN SHIPMENTS FROM MANITOBA-SASKATCH

FOR CROP YEAR ENDING AUGUST 31ST TO THE CLOSE OF NAVIGATION FOR THA

Authority :- Federal Government Report on the Grain Trade of Canada for

Note :- Percentages of Grain are based on Tonnage - not Bushels.

GRAPH No. 71.

MANITOBA

Scale :- 1" = 10%

(1)

Total Railway Mileage equals 4756 Miles or 100%

C.N.R. = 2510 Miles or 52.775% of Total Mileage (including 214 Miles of C.N.Ry. commencing at Le Pas.)

C.P.R. = 1986 Miles or 41.755% of Total Mileage

G.N.R. = 163 Miles or 3.43% of Total Mileage.

N.W.R. = 97.1 Miles or 2.04% of Total Mileage

Total 4756 Miles or 100%.

(2) Total Output of Grain equals 1,022,232 Tons or 100%

Wheat 23,508,443 Bushels or 705,073 Tons = 68.97% of Total Tonnage

Oats. 8,858,286 Bushels or 150,591 Tons or 14.73% of Total Tonnage

Barley. 5,128,023 Bushels or 123,073 Tons or 12.04% of Total Tonnage

Flax. 811,552 Bushels or 28,723 Tons or 2.23% of Total Tonnage

Rye. 741,856 Bushels or 20,772 Tons or 2.03% of Total Tonnage

Total. 39,042,130 Bushels or 1,022,232 Tons or 100%

(3) All Grains combined.

C.P.R. 53.73% of Total

C.Nat.Rlys. 42.79% of Total

G.N.R. 3.46% of Total

(4) Tonnage per Mile

C.P.R. 276.5 Tons per Mile

G.N.R. 217.4 Tons per Mile

C.Nat.Rlys 174.3 Tons per Mile.

All four Railways Combined equals 214.3 Tons per Mile

(5) Amount taken out by each Railway

Wheat

C.P.R. 13,229,722 Bushels or 396,892 Tons or 56.29% of Total Wheat

C.Nat.Rlys 9,298,785 Bushels or 278,964 Tons or 39.57% of Total Wheat

G.N.R. 973,936 Bushels or 29,218 Tons or 4.11% of Total Wheat

(6) Oats

C.P.R. 4,811,233 Bushels or 81,791 Tons or 54.30% of Total Oats

C.Nat.Rlys 3,782,179 Bushels or 67,697 Tons or 44.95% of Total Oats

G.N.R. 64,874 Bushels or 1,103 Tons or 0.74% of Total Oats

(7) Barley

C.Nat.Rlys 3,210,269 Bushels or 77,046 Tons or 62.60% of Total Barley

C.P.R. 1,732,066 Bushels or 43,010 Tons or 34.94% of Total Barley

G.N.R. 125,688 Bushels or 3,016 Tons or 2.46% of Total Barley

(8) Flax

C.P.Rlys 518,253 Bushels or 14,511 Tons or 63.86% of Total Flax

C.Nat.Rlys 264,463 Bushels of 7,405 Tons or 32.58% of Total Flax

G.N.R. 28,806 Bushels or 807 Tons or 3.56% of Total Flax.

(9) Rye

C.P.R. 464,480 Bushels or 13,005 Tons or 62.61% of Total Rye

C.Nat.Rlys 229,773 Bushels or 6,434 Tons or 30.98% of Total Rye

G.N.R. 47,603 Bushels or 1,333 Tons or 6.41% of Total Rye

SASKATCHEWAN

Scale :- 1" = 10%

(10)

Total Railway Mileage equals 6615.1 Miles or 100%

C.Nat.Rlys 3579.3 Miles or 54.11% of Total Mileage.

(11) Total Output of Grain equals 3,501,441 Tons or 100%

Wheat 95,537,867 Bushels or 2,866,136 Tons or 81.86% of Total

(19)

Total Railway Mileage equals 4755.4

C.Nat.Rlys = 2002.5 Miles or 42.11% of

C.P.R. = 1961.9 Miles or 41.25% of

E.D.&B.C. and C.C.Rlys = 468 Miles or 9.84%

A.&G.W.R = 289 Miles or 6.08% of To

L.&N.W.Rly. = 34 Miles or 0.72% of To

Total Mileage. 4755.4 Miles or 100%

(21) All Grains combined

C.P.R. 42.588% of Total

C.Nat.Rlys 36.702% of Total

E.D.&B.C. and C.C.Rlys 1.154% of Total

A.&G.W.R. 10.408% of Total

L.&N.W.Rly 0.170% of Total

(23) Wheat.

(24) Oats.

(25) Barley.

(26) Flax.

(27) Rye

Total Railway

Total Amount

(28) Manitoba. 4756 Miles or 29.48%

1920-21

ITOBA - SASKATCHEWAN AND ALBERTA

O THE CLOSE OF NAVIGATION FOR THAT YEAR.

n the Grain Trade of Canada for 1921.

are based on Tonnage - not Bushels.

Compiled by W. Pearce,

Calgary 1st Oct. 1922

Note. The Data given regarding Grain shipped, taken from Table #7 of of the Authority cited, though called the 1921 Grain Trade Report, it is so far as this graph is concerned the production of 1920. A reference to Table #2 so far as it relates to Man. Sask. and Alberta and the Three Provinces combined, will prove interesting (see pages 18 & 22 of said report). If a graph prepared on lines similar to this were carried on for some years it would probably prove both interesting and instructive. The proportions of Tonnage carried by each Railway System would no doubt vary from year to year in each of the Three Provinces and also in the Three Combined. That variation in volume of Traffic depends to a greater extent on the Wheat Crop than on the others. A reference to Table #2 on page 21 of said report shows less variation in Total Tonnage in the five years revised viz: 1917-21 than is the regular superposition respecting production.

ALBERTA

Scale :- 1" = 10%

0 10 20 30 40 50 60 70 80 90 100

Total Railway Mileage equals 4755.4 Miles or 100%

Nat. Rlys = 2002.5 Miles or 42.11% of Total Mileage.

P.R. = 1961.9 Miles or 41.25% of Total Mileage

D.B.C. and C.C. Rlys = 468 Miles or 9.84% of Total Mileage

& G.W.R = 283 Miles or 6.08% of Total Mileage

& N.W. Rly. = 34 Miles or 0.72% of Total Mileage

tal Mileage. 4755.4 Miles or 100%

(20) Total Output of Grain equals 2,316,565 Tons or 100%

Wheat. 52,269,953 Bushels or 1,568,099 Tons or 67.69% of Total Tonnage.

Oats. 34,672,345 Bushels or 583,445 Tons or 25.45% of Total Tonnage.

Barley 4,543,149 Bushels or 109,180 Tons or 4.71% of Total Tonnage.

Flax. 651,736 Bushels or 18,249 Tons or 0.77% of Total Tonnage.

Rye 1,128,476 Bushels or 31,597 Tons or 1.36% of Total Tonnage

Total. 93,272,259 Bushels or 2,316,565 Tons or 100%

All Grains combined

P. R. 61.558% of Total

Nat. Rlys. 36.702% of Total.

D.B.C. and C.C. Rlys. 1.154% of Total

G.W.R. 0.498% of Total

& N.W. Rly 0.178% of Total

(22) Tonnage per Mile. (Total 2,316,565 / 4755.4 = 487.1 Tons per Mile.

C.P.R. 726.8 Tons per Mile.

C.Nat.Rlys. 424.6 Tons per Mile

E.D.B.C. and C.C. Rlys. 57.3 Tons per Mile.

A.E.G.W.R. 32.6 Tons per Mile

L.E.N.W.R. 117.6 Tons per Mile.

Amount taken out by each Railway.

eat.

C.P.R. 34,834,037 Bushels or 1,045,021 Tons or 66.64% of Total Wheat

C.Nat.Rlys. 16,963,150 Bushels or 508,894 Tons or 32.453% of Total Wheat

E.D.B.C. & C.C.Rlys. 380,855 Bushels or 11,426 Tons or 0.728% of Total Wheat

A.E.G.W.R. 28,640 Bushels or 859 Tons or 0.054% of Total Wheat

L.E.N.W.R. 63,271 Bushels or 1,898 Tons or 0.0121% of Total Wheat

's.

C. Nat. Rlys. 16,961,292 Bushels or 288,343 Tons or 48.917% of Total Oats

C. P. R. 16,559,970 Bushels or 281,519 Tons or 47.76% of Total Oats

E.D. & B.C. and C.C.R 785,636 Bushels or 13,356 Tons or 2.268% of Total Oats

A. & G. W. R. 321,203 Bushels or 5,460 Tons or 0.926% of Total Oats

L. & N.W.R 44,844 Bushels or 762 Tons or 0.129% of Total Oats.

arley.

C. P. R. 2,387,428 Bushels or 57,298 Tons or 52.49% of Total Barley

C. Nat. Rlys. 1,721,821 Bushels or 46.124 Tons or 42.247% of Total Barley

E.D & B.C. and C.C.R 129,398 Bushels or 3,106 Tons or 2.849% of Total Barley

A. & G. W. R. 77,715 Bushels or 1,865 Tons or 1.686% of Total Barley

L. & N.W.R. 32,787 Bushels or 787 Tons or 0.721% of Total Barley

ax.

C. P. R. 554,654 Bushels or 15,530 Tons or 85.14% of Total Flax.

C. Nat. Rlys. 96,018 Bushels or 2,689 Tons or 14.753% of Total Flax.

E. D. & B.C. & C.C. Rlys. 1,064 Bushels or 30 Tons or 0.107% of Total Flax

A. & G. W. Rlys. —

L. & N.W.R. —

e.

C.P.R. 951,567 Bushels or 26,644 Tons or 84.32% of Total Rye.

C.Nat. Rlys. 151,309 Bushels or 4,237 Tons or 13.409% of Total Rye.

E.D. & B.C. and C.C.Rlys. 5,866 Bushels or 164 Tons or 0.518% of Total Rye.

A. & G. W. Rly. —

L. & N.W. Rly. 19,734 Bushels or 553 Tons or 1.750% of Total Rye.

TOTAL OF THREE PROVINCES COMBINED.

Total Railway Mileage of Three Provinces = 16,126.5 Miles, including Double Track and including 214 Miles from Le Pas towards Hudson Bay.

0 10 20 30 40 50 60 70 80 90 100%

Total Amount of Grain of Three Provinces = 261,272,591 Bushels or 6,840,238 Tons equals 100%

4756 Miles or 29.48%

(29) Bushels and Tonnage

INDEX

Grain. Bushels Tonnage and Percentages.

Bushels & Tonnage	Manitoba	Saskatchewan	Alberta	Three Provinces Combined
Wheat.	№ 2	№ 11	№ 20	№ 34
Oats.	2	11	20	34
Barley.	2	11	20	34
Flax.	2	11	20	34
Rye.	2	11	20	34
Wheat in Bushels, Tons and Percentages taken out by each Railway Line.				
C. Nat. Rlys	5	14	23	34
C. P. R.	5	14	23	34
E.D.B.C. & C.C. Rlys	—	—	23	34
A. & G.W. Rlys.	—	—	23	34
G.N.R.	5	—	—	34
L. & N.W. R.	—	—	23	34
Oats in Bushels, Tons and Percentages taken out by each Railway Line				
C. Nat. Rlys.	6	15	24	34
C. P. R.	6	15	24	34
E.D.B.C. & C.C. Rlys	—	—	24	34
A. & G.W. Rly.	—	—	24	34
G.N.R.	6	—	—	34
L. & N.W. Rly.	—	—	24	34
Barley in Bushels, Tons and Percentages taken out by each Railway Line.				
C. Nat. Rlys.	7	16	25	34
C. P. R.	7	16	25	34
E.D.B.C. & C.C. Rlys.	—	—	25	34
A. & G.N. Rly.	—	—	25	34
G.N.R.	7	—	—	34
L. & N.W. Rly.	—	—	25	34
Flax in Bushels, Tons and Percentages taken out by each Railway Line				
C. Nat. Rlys	8	17	26	34
C. P. R.	8	17	26	34
E.D.B.C. & C.C. Rlys.	—	—	26	34
A. & G.W. Rly.	—	—	26	34
G.N.R.	8	—	—	34
L. & N.W. Rly.	—	—	26	34
Rye in Bushels, Tons and Percentages taken out by each Railway Line				
C. Nat. Rlys.	9	18	27	34
C. P. R.	9	18	27	34
E.D. & B.C. & C.C. Rlys.	—	—	27	34
A. & G.W. Rly.	—	—	27	34
G.N.R.	9	—	—	34
L. & N.W.R.	—	—	27	34

Note. No Grain carried by N.W. Rly.

Railway Mileage & Percentages				
C. Nat. Rlys	1	10	19	28-30
C. P. R.	1	10	19	28-30
E.D.B.C. & C.C. Rlys.	—	—	19	28-30
A. & G.W. Rly.	—	—	19	28-30
G.N.R.	1	—	—	28-30
L. & N.W.R	—	—	19	28-30
W.N.R.	1	—	—	28-30

Percentage of Grain Tonnage carried by the different Railway Lines in each Province and the Three Provinces combined

	№ 3	№ 12	№ 21

A. & G.W.R.	28,640 Bushels or	859 Tons or	0·0547% of Total Wheat	
L. & N.W.R.	63,271 Bushels or	1,898 Tons or	0·0121% of Total Wheat	

ats.

C. Nat. Rlys.	16,961,292 Bushels or	288,343 Tons or	48·917% of Total Oats
C. P. R.	16,559,970 Bushels or	281,519 Tons or	47·76% of Total Oats
E.D. & B.C. and C.C.R.	785,636 Bushels or	13,366 Tons or	2·268% of Total Oats
A. & G.W.R.	321,203 Bushels or	5,460 Tons or	0·926% of Total Oats
L. & N.W.R.	44,844 Bushels or	762 Tons or	0·129% of Total Oats.

Barley.

C. P. R.	2,387,428 Bushels or	57,298 Tons or	52·49% of Total Barley
C. Nat. Rlys.	1,921,821 Bushels or	46·124 Tons or	42·247% of Total Barley
E. D. & B.C. and C.C.R.	129,398 Bushels or	3,106 Tons or	2·848% of Total Barley
A. & G.W.R.	77,715 Bushels or	1,865 Tons or	1·686% of Total Barley
L. & N.W.R.	32,787 Bushels or	787 Tons or	0·721% of Total Barley

lax.

C. P. R.	554,654 Bushels or	15,530 Tons or	85·14% of Total Flax.
C. Nat. Rlys.	96,018 Bushels or	2,689 Tons or	14·753% of Total Flax.
E. D. & B.C. & C.C. Rlys.	1,064 Bushels or	30 Tons or	0·167% of Total Flax
A. & G.W. Rly.	—	—	—
L. & N.W.R.	—	—	—

ye.

C.P.R.	951,567 Bushels or	26,644 Tons or	87·32% of Total Rye.
C. Nat. Rlys.	151,309 Bushels or	4,237 Tons or	13·909% of Total Rye.
E.D. & B.C. and C.C. Rlys.	5,866 Bushels or	164 Tons or	0·518% of Total Rye.
A. & G.W. Rly.	—	—	—
L. & N.W. Rly.	19,734 Bushels or	553 Tons or	1·750% of Total Rye.

TOTAL OF THREE PROVINCES COMBINED.

Total Railway Mileage of Three Provinces = 16,126·5 Miles, including Double Track and including 214 Miles from Le Pas towards Hudson Bay.

Total Amount of Grain of Three Provinces = 261,272,591 Bushels or 6,840,238 Tons equals 100%

anitoba. 4756 Miles or 29·48%

skatchewan. 6615·1 Miles or 41·030

berta. 4755·4 Miles or 29·483

Total. 16,126·5 Miles or 100%

al Rlys.	8091·8 Miles or	50·17%
R.R.	6983·7 Miles or	43·31% (including Double Track.)
&B.C.&C.C.R.	468 Miles or	2·90%
.G.W.R.	289 Miles or	1·795%
.N.R.	163 Miles or	1·01%
W.R.	97 Miles or	0·60%
& N.W.R.	34 Miles or	0·21
	16,126·5 Miles or	100%

Tonnage hauled per Mile = 6,840,238 / 16,126·5 = 424·2 Tons per Mile for the Three Provinces.

ys.	2,836,245 / 8,091·8	= 350·5 Tons per Mile.
	3,928,250 / 6983·7	= 562·5 Tons per Mile.
&B.C.&C.C.Rlys.	26,841 / 468	= 57·3 Tons per Mile.
.R.	3425 / 289	= 32·6 Tons per Mile.
	35,447 / 163	= 217·6 Tons per Mile.
.R.	4000 / 34	= 117·6 Tons per Mile
	Nil.	—

Tonnage

2,836,245	Tons or	41,535%
3,928,250	Tons or	57,535%
C.R. 26,841	Tons or	0·393%
3,425	Tons or	0·013%
35,447	Tons or	0·518%
—	—	—
4,000	Tons or	0·006%
6,840,238	Tons or	100%

(29) Bushels and Tonnage

Manitoba	39,042,130 Bushels =	1022,232 Tons = 14·97%
Saskatchewan	128,958,202 Bushels =	3501,441 Tons = 51·22%
Alberta	93,272,259 Bushels =	2,316,565 Tons = 33·81%
	261,272,591 Bushels =	6,840,238 Tons = 100%

(31)

Wheat.	171,310,263 Bushels or	5,139,308 Tons =	75·13%
Oats.	62,303,441 Bushels or	1,188,460 Tons =	17·38%
Barley.	12,252,503 Bushels or	294,060 Tons =	4·30%
Flax.	5,425,881 Bushels or	151,925 Tons =	2·22%
Rye.	2,374,503 Bushels or	66,485 Tons =	0·97%
Total.	261,272,591 Bushels or	6,840,238 Tons =	100%

The Percentage each class is of the Total Tonnage of the Three Provinces.

C. Nat. Rlys.	1	10	19	28-30
C. P. R.	1	10	19	28-30
E.D.B.C.&C.C.Rlys.	—	—	19	28-30
A.&G.W.R.	—	—	19	28-30
G.N.R.	1	—	—	28-30
L.&N.W.R.	—	—	19	28-30
W.W.R.	1	—	—	28-30

Percentage of Grain Tonnage carried by the different Railway Lines in each Province and the Three Provinces combined. #3 #12 #21

Tonnage & Percentage in Grain per Mile by each Railway Line in each Province and Three Provinces Combined. #4 #13 #22 #32

Total Bushels, Tonnage & Percentages of each class of Grain shipped in the Three Provinces combined. #31

The Data in #31 representing Wheat, Oats, Barley, Flax and Rye showing in Tonnage what is shipped out, also Percentage each is of the whole of its class and of the Total Amount shipped from the Three Provinces combined. #34

Weight of Grain per Bushel.

Wheat = 60# Oats = 34# Barley = 48# Flax and Rye 56#

Flax in Bushels, Tons and Percentages taken out by each Railway Line

C. Nat. Rlys.	8	17	26	34
C.P.R.	8	17	26	34
E.D.B.C.&C.C.Rly.	—	—	26	34
A.&G.W.Rly.	—	—	26	34
G.N.R.	8	—	—	34
L.&N.W.Rly.	—	—	26	34

Rye in Bushels, Tons and Percentages taken out by each Railway Line

C. Nat. Rlys.	9	18	27	34
C.P.R.	9	18	27	34
E.D.B.C.&C.C.Rys.	—	—	27	34
A.&G.W.Rly.	—	—	27	34
G.N.R.	9	—	—	34
L.&N.W.R.	—	—	27	34

Note. No Grain carried by W.W. Rlys.

RAILWAY MILEAGE & PERCENTAGES

(34) Grain Output of Three Provinces Combined. (in Tons)

	Wheat				% of Kind	% of Total Output	Oats				% of Kind	% of Total Output	Barley				% of Kind	% of Total Output
	Man.	Sask.	Alta.	Total Tons			Man.	Sask.	Alta.	Total Tons			Man.	Sask.	Alta.	Total Tons		
C. Nat. Rlys	278,764	1,152,040	508,874	1,939,678	37·84	28·44	47,457	240,887	288,343	576,687	48·43	9·67	77,046	45,851	46,124	169,021	57·47	2·814
C. P. Rlys	396,892	1,714,096	1,045,021	3,156,009	61·617	46·24	81,791	143,332	281,519	506,642	42·53	7·901	93,010	15,256	57,238	165,264	37·85	2·763
E.D. & B.C. and C.C. Rlys.	—	—	11,426	11,426	·023	·017	—	—	13,356	12,356	1·1%	·1·195	—	—	1,865	1,865	·43	·029
A. & G.W. Rly	—	—	853	853	·002	·002	—	—	5,460	5,460	·46	·073	—	—	3,106	3,106	1·06	·0·045
G. N. Rly.	29,218	—	—	29,218	·570	·426	1,103	—	—	1,103	·09	·016	2,245	—	—	2,245	·51	·038
L. & N.W. Rly.	—	—	2,878	2,878	·056	·042	—	—	762	762	·06	·011	—	—	787	787	·27	·0·011
W. W. Rly.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals.				5,139,308	100·00	75·13				1,188,460	27·93	17·38				294,053	33·99	4·30

	Flax.				% of	% of	Rye.				% of	% of
	Man.	Sask.	Alta.	Total Tons	% of Kind	Total Output	Man.	Sask.	Alta.	Total Tons	% of Kind	Total Output
C. Nat. Rlys	7,405	42,350	2,689	52,444	34·53	0·779	6,434	3,074	4,237	13,745	20·69	0·201
C. P. Rlys	18,611	68,413	18,330	105,354	69·37	1·567	13,205	11,248	26,674	51,127	76·96	0·747
E.D. & B.C. and C.C. Rlys.	—	—	30	30	·019	·0·004	—	—	164	164	2·47	0·002
A. & G.W. Rly	—	—	—	—	—	—	—	—	—	—	—	—
G. N. Rly.	807	—	—	807	·53	0·012	1,313	—	—	1,313	1·98	0·019
L. & N.W. Rly.	—	—	—	—	—	—	—	—	553	553	8·33	0·008
W. W. Rly.	—	—	—	—	—	—	—	—	—	—	—	—
Totals.				151,935	100·00	2·22				66,485	100·00	0·970

Canadian Pacific Railway Mileage includes Double Track.

Lobstick Junction to Lucerne, a distance of 185 Miles, is used in common by the G.T.P. and C.N.Rlys. That 185 Miles of abandoned Railway is not included in the Mileage

s, a distance of 12 Miles, line is not now operated; originally part of the G.T.P. Rly., the Pocahontas Coal Mine being closed. It is reported that a considerable portion of this Line has Ten Feet of Drifting Sand over it at present. Since way System, this Mileage is included in C. Nat. Rly's.

les from Henry House to Pocahontas mentioned.

(6) Oats

C. P. R. 4,811,233 Bushels or 81,721 Tons or 54.30% of Total Oats
C. Nat. Rly.s 3,282,179 Bushels or 67,697 Tons or 44.95% of Total Oats
G. N. R. 64,874 Bushels or 1,103 Tons or 0.74% of Total Oats

(7) Barley

C. Nat. Rys. 3,210,249 Bushels or 77,446 Tons or 62.10% of Total Barley
C. P. R. 1,792,066 Bushels or 43,010 Tons or 34.94% of Total Barley
G. N. R. 125,688 Bushels or 3,016 Tons or 2.46% of Total Barley

(8) Flax

C. P. Rly. 518,253 Bushels or 14,511 Tons or 63.86% of Total Flax
C. Nat. Rly.s 264,463 Bushels of 7,405 Tons or 32.58% of Total Flax
G. N. R. 28,806 Bushels or 807 Tons or 3.56% of Total Flax.

(9) Rye

C. P. R. 464,480 Bushels or 13,005 Tons or 62.61% of Total Rye
C. Nat. Rly.s 229,773 Bushels or 6,434 Tons or 30.98% of Total Rye
G. N. R. 47,608 Bushels or 1,333 Tons or 6.41% of Total Rye

SASKATCHEWAN

Scale :- 1" = 10%

(10) Total Railway Mileage equals 6615.1 Miles or 100%
C. Nat. Rly.s 3579.3 Miles or 54.11% of Total Mileage.
C. P. R. = 3035.8 Miles or 45.89% of Total Mileage.
Total Mileage = 6615.1 Miles or 100%

(11) Total Output of Grain equals 3,501,441 Tons or 100%
Wheat. 85,537,867 Bushels or 2,866,136 Tons or 81.86% of Total
Oats. 26,378,210 Bushels or 448,987 Tons or 12.81% of Total
Flax. 3,962,623 Bushels or 110,953 Tons or 3.17% of Total
Barley. 2,575,331 Bushels or 61,807 Tons or 1.76% of Total
Rye. 504,171 Bushels or 14,116 Tons or 0.40% of Total
Total. 128,958,202 Bushels or 3,501,441 Tons or 100%

(12) All Grains Combined
C. P. R. equals 55.77% of Total
C. Nat. Rly.s equals 44.23% of Total

(13) Tonnage per Mile
C. P. R. equals 643.3 Tons per Mile
C. Nat. Rly.s equals 432.6 Tons per Mile.
Two Railways combined equals 529.3 Tons per Mile

(14) Amount taken out by each Railway
Wheat.
C. P. R. 57,136,535 Bushels or 1,714,096 Tons or 59.80% of Total Wheat
C. Nat. Rly.s 38,401,332 Bushels or 1,152,040 Tons or 40.20% of Total Wheat

(15) Oats.
C. Nat. Rly.s 17,946,306 Bushels or 305,097 Tons or 68.04% of Total Oats
G. P. R. 8,431,304 Bushels or 143,332 Tons or 31.96% of Total Oats

(16) Barley.
C. Nat. Rly.s 1,910,493 Bushels or 45,851 Tons or 74.13% of Total Barley
C. P. R. 664,856 Bushels or 15,956 Tons or 25.81% of Total Barley

(17) Flax.
C. P. R. 2,450,092 Bushels or 68,603 Tons or 61.83% of Total Flax
C. Nat. Rly.s 1,512,531 Bushels or 42,350 Tons or 38.17% of Total Flax

(18) Rye.
C. P. R. 394,348 Bushels or 11,042 Tons or 78.28% of Total Rye.
C. Nat. Rly.s 109,813 Bushels or 3,074 Tons or 21.80% of Total Rye.

(24) Oats.

(25) Barley.

(26) Flax.

(27) Rye.

Total Railway / Total Amount

(28)
Manitoba. 4756 Miles or 71.88%
Saskatchewan. 6615.1 Miles or 41.030
Alberta. 4755.4 Miles or 29.383
Total. 16,126.5 Miles or 100%

(30)
C. Nat. Rly.s 8091.8 Miles or 50.17%
C. P. R. 6993.7 Miles or 43.81% Cinc
E.D.&B.C.&C.C.R. 461 Miles or 2.90%
A.&G.W.R. 289 Miles or 1.795%
G.N.R. 163 Miles or 1.01%
W.W.R. 97 Miles or 0.60%
L.&N.W.R. 34 Miles or 0.21
Total 16,126.5 Miles or 100%

(32) Tonnage hauled per Mile = 6,840,238 / 16,126.5 = 42
per Mile for the Three Provinces.

C. Nat. Rly.s 2,836,245 / 8,091.8 = 350.5 Tons pe
C. P. R. 3,928,250 / 6993.7 = 562.5 Tons pe
E.D.&B.C.&C.C.R.ys 26,841 / 461 = 57.3 Tons pe
A.&G.W.R. 9425 / 289 = 32.6 Tons pe
G.N.R. 35,477 / 163 = 217.6 Tons pe
L.&N.W.R. 4000 / 34 = 117.6 Tons pe
W.W.R. Nil. —

(33)

	Tonnage.	
C. Nat. Rly.s	2,836,245	Tons or 41.535%
C. P. R.	3,928,250	Tons or 57.535%
E.D.&B.C.&C.C.R.	26,841	Tons or 0.393%
A.&G.W.R.	9,425	Tons or 0.013%
G.N.R.	35,477	Tons or 0.518%
W.W.R.	—	—
L.&N.W.R.	4,000	Tons or 0.006%
Total	6,840,238	Tons or 100%

Note. { The first fourteen Miles out of Edmonton is used in common by the E.D.&B.C. and the A.&G.W.Rly.s
In the Mileage of said Railways, half of that distance, 113.7 Miles, is included in the total Mileage of each of said Lines.

Canadian National Railways. From Henry House easterly to Pocahontas, a distance of 16 Miles, line is not
a part of the Dominion Government Railway System this Mileage is included
of the C. Nat. Rly.s excepting the 16 Miles from Henry House to Pocahontas

17

LAA-1974-169-2100-001-002

A GRAPHIC REPRESENTATION OF THE REPORT SPECIFIED IN THE TITLE.

The blue print shows the discharge of the Bow River and the Elbow River, each separately and also combined. To obtain the second feet multiply the figures given by 10.53. The way 10.53 cameto be adopted was this. The lowest monthly discharge for eleven years for the Bow River averaged 1053 second feet. It was thought that would be a suitable unit on which to base comparison of the discharges. Probably it would have been as well to have taken 1000, however, it does not matter what is taken because the graph demonstrates merely by comparison.

Table number one in the graph gives the Bow River, number two the Elbow River, and three the Bow and Elbow combined. You will also note that the discharge for the year worked out on a monthly average is 355.1 for the Bow and 38.5 for the Elbow, the two combined being 393.6. If there was storage enough so that this amount of water could be discharged uniformly all the year round, the Bow and Elbow combined would make a very valuable stream for power purposes, and it is submitted that it will not prove an expensive matter to provide the storage necessary to approach very closely the "possible".

The lowest average monthly discharge for the eleven years on the Bow is for February 1053 second feet and for the Elbow, January 113 second feet, thw two combined making 1166 second feet. However, in looking through the details for the Bow and Elbow it will be found that the following are the extremely low discharges:-

Year	Month	Lowest Monthly Discharge for Bow River	Lowest Monthly Discharge of Elbow River	Both Rivers Combined
1911	Dec.	774. sec. ft.	119 sec. ft.	883 sec. ft.
1911	Jan.	1109 "	62 "	1171 "
1920	Mar.	809 "	116 "	925 "
1920	Jan.	831 "	115 "	946 "
1919	Mar.	873 "	112 "	985 "
1920	Feb.	893 "	113 "	1006 "
1917	Mar.	908 "	176 "	1084 "

The power that could be developed would be 4.7 times the amount that is possible without such storage.

$$\frac{(393.6 \times 10.53 \times 10)}{11} = 3768$$ the number of horse power with a ten foot head, that would be developed if sufficient storage was provided. This is based on an 80% efficienty. For each 1% of increase in efficiency there would be 1¼% in power development. The foregoing is equivalent to 376 H. P. for each one foot in head. It can thus be readily worked out for any height in head and percentage of efficiency above 80%.

Discharge of Bow and Elbow R

1910-11 to 1920-21

See Pages 157 and 169 of Water Resources Paper # 34 (Note. The
the Water Resources Paper for the year given)

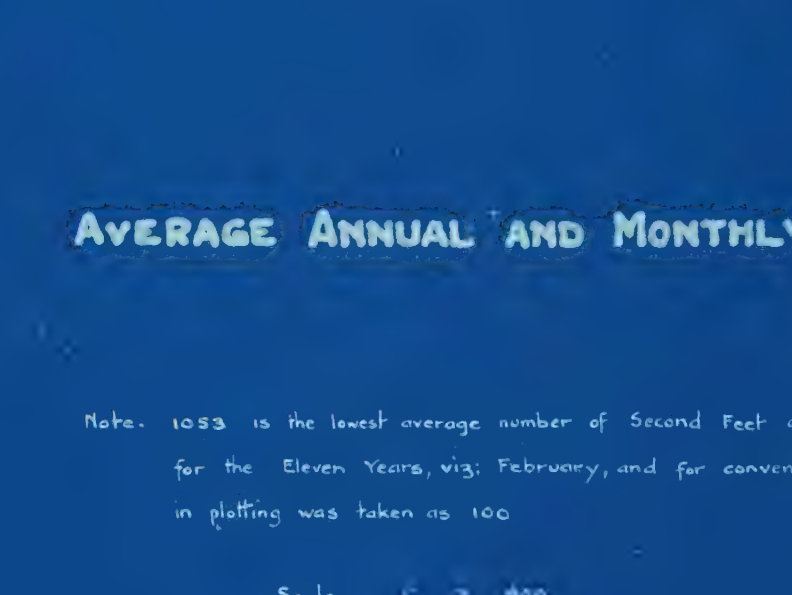
Note. To get actual discharge in Second Feet, multiply figures g

Average Annual and Monthly Discharge

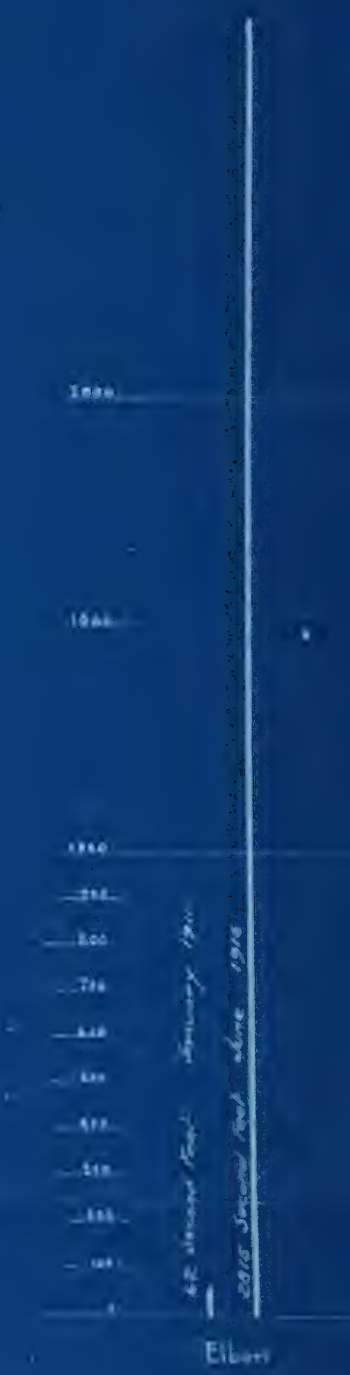
Note. 1053 is the lowest average number of Second Feet of the Bow River for the Eleven Years, viz; February, and for convenience of comparison in plotting was taken as 100

Scale 1" = 400

Bow River
1910-11 to 1920-21



Elbow River



LBOW RIVERS AT CALGARY.

-21

* 36 (Note. The Various Discharges have as Authority
year given)

, multiply figures given by 10·53

Graph No. 77-2

VARIOUS DAILY DISCHARGES

Bow River
Scale 1" = 4000

1910 - 11

11,432 Second Feet Average daily discharge for the Month of June
16,466 Second Feet Discharge on 25th June

3,454 Second Feet Average daily discharge for the Month of July
13,730 Second Feet Discharge on July 13th.

1911 - 12

8,185 Second Feet Average daily discharge for the Month of June
13,894 Second Feet Discharge on 19th June

10,772 Second Feet Average daily discharge for the Month of July
14,861 Second Feet Discharge on 19th July.

1912 - 13

9,326 Second Feet Average daily discharge for the Month of June
11,900 Second Feet Discharge on 8th June

7,423 Second Feet Average daily discharge for the Month of July
11,018 Second Feet Discharge on 3rd July.

1913 - 14

[illegible] Second Feet [illegible]
11,940 Second Feet 26th June 1922

[illegible] Second Feet [illegible]
[illegible] Second Feet [illegible]

Bow River
Scale 1" = 4000

1909 - 10

735 Second Feet December 1911
14,672 Second Feet July 1916

466 Second Feet Average daily discharge for the Month of June
602 Second Feet Discharge on 21st June.

282 Second Feet Average daily discharge for the Month of July
387 Second Feet Discharge on 1st July

1910 - 11

315 Second Feet Average daily discharge for the Month of June
1466 Second Feet Discharge on June 1st

633 Second Feet Average daily discharge for the Month of July.
1208 Second Feet Discharge on 12th July

1911 - 12

93 Second Feet Average daily discharge for the Month of June
4,312 Second Feet Discharge for 1 25th June

1,589 Second Feet Average daily discharge for the Month of July.
3,690 Second Feet Discharge on 25th July

Elbow River
Scale 1" = 400

1919 - 20

68 Second Feet January 1911
2815 Second Feet June 1916

45 Second Ft 23rd December 1920
1186 Second Ft 7th June 1921

1920 - 21

704 Second Feet Average daily discharge for the Month of May
1107 Second Feet Discharge on 25th May.

689 Second Feet Average daily discharge for the Month of June
1186 Second Feet Discharge on 7th June

355 Second Feet Average daily discharge for the Month of July
816 Second Feet Discharge on 1st July

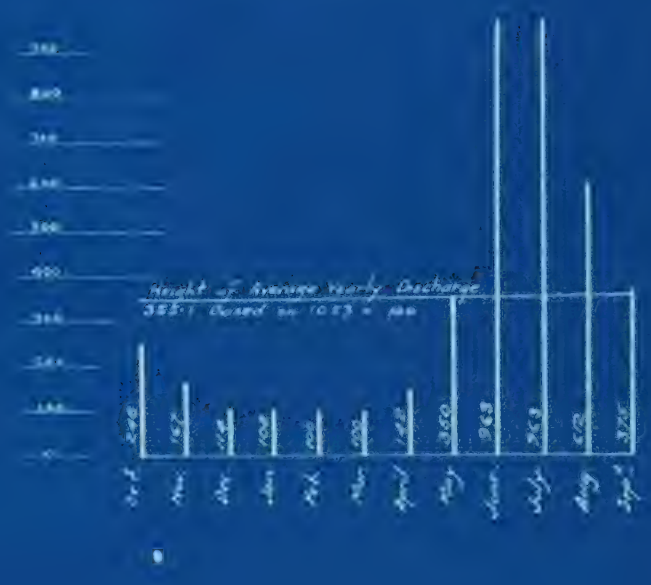
Average Annual and Monthly Discharge

Note. 1053 is the lowest average number of Second Feet of the Bow River for the Eleven Years, viz: February, and for convenience of comparison in plotting was taken as 100

Scale 1" = 400

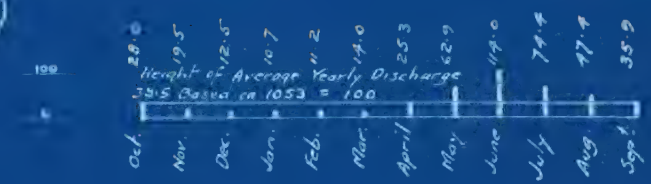
(1)

Bow River
1910-11 to 1920-21



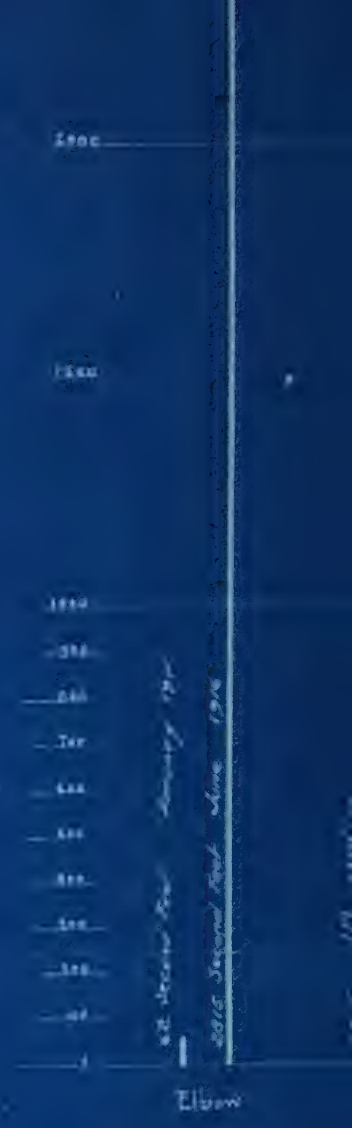
(2)

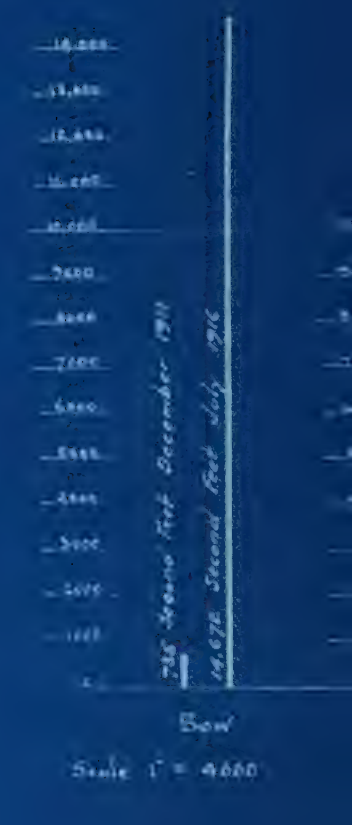
Elbow River

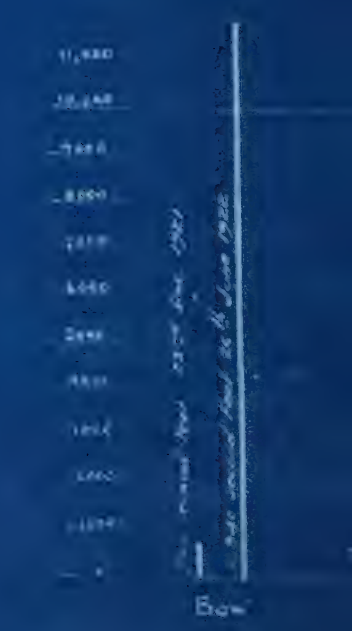


(3.)

Bow and Elbow Rivers
(Combined)







L

USA-1974-169-2100-001-006

LL

TO ACCOMPANY GRAPH #76.

6 March, 1924

Dear Sir:-

Attached graph #76, which is thought may be of interest to you. The authority is given in the title.

Said report is issued monthly for the purpose of giving impartial information regarding business conditions and is also distributed free to anybody desiring it. The portion of said report devoted to the weed menace in spring wheat areas, is certainly invaluable. The undersigned is not aware of a similar publication in Canada. To be of value it is desirable that the report should be issued as promptly as possible after the facts are obtainable.

It is intended to try if possible to obtain the same information as is shown in this concerning the 1923 crop in the three Canadian Prairie Provinces. There may be some difficulty in obtaining said data. If you can assist in any way in obtaining it kindly do so.

It would be extremely interesting to ascertain in the crop of 1923 what is the percentage of dockage in the various portions of the wheat producing areas of the three Prairie Provinces. The result would probably be astonishing as to the amount, particularly in those portions where the crop may have been a poor one.

There are seven different tables in the graph.

1. Is most interesting, showing in the four States enumerated the decrease in the production and increase in the dockage, for the past twenty years.

2. Shows the different percentages of dockage in the various sections.

3. The output of spring wheat. Two and three should be considered together. The striking feature is that, where the most wheat is produced, the higher the percentage of dockage. That condition probably arises because of the greater length of time the ground has been cropped.

4. Shows the total wheat production and the amount of dockage which it contained. Note the gain per bushel to those farmers who cleaned their grain.

5. Note particularly the cost of threshing and transportation of the dockage.

6. Shows the percentage which is dockage in each of the four States mentioned.

7. Shows the value of the dockage, if it were fed to lambs 3,648,300 in number, and if fed to them would produce in mutton, at twelve cents per pound, $8,755,920.

The total production is probably less than that of Alberta in 1923. Assuming that its dockage averages only one-half of what the four States averaged, and it is submitted that such is considerably too low, nearly two million lambs could have been fed in Alberta at a profit of nearly four and a half million dollars. Today lambs are selling in the open market at Calgary at upwards of twelve cents a pound, the value such increased weight was placed at in the report.

Remedies as per report. The recommendations made are worthy of most serious attention. Note statement regarding the possibilities of cleaning grain.

Your attention is specially directed to the comments, particularly the necessity of cleaning the grain so that the dockage may be readily available to be fed out on the land which produced it , thereby, to some extent maintaining the necessary soil fertilisation.

Would it not be advisable that the lessons derived from a study of this should be brought to the attention of the spring wheat growers and others interested in the same, with a view of possibly avoiding to as great an extent as may be possible, the drastic condition to which we are fast approaching, and to some extent have probably already reached. Your hearty co-operation is confidently anticipated in the attainment desired.

Respectfully submitted,
WM. PEARCE.

THE MENACE OF WEEDS TO SPRING WHEAT RAISIN

IN THE FOUR STATES

MINNESOTA; NORTH DAKOTA; SOUTH DAKOTA & MONTANA

AUTHORITY

Report Nº 108, dated 28th Jan. 1924, of the 9th Federal Reserve District

By

John H. Rich, Federal Reserve Agent to Federal Reserve Board

at

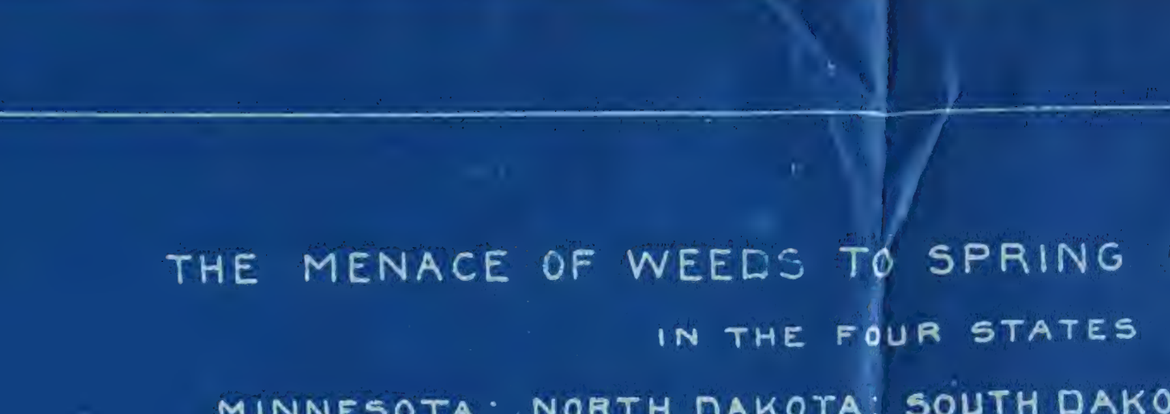
WASHINGTON D.C.

Graph Nº 76

(1)

Average yield per acre of Spring Wheat; and average percentage of Dockage in Spring Wheat receipts at Minneapolis terminals. Averages as for five-year periods.

(2)



(3)

Report Nº 100 vouches for accuracy of above Maps or Diagrams, compiled from three different and independent sources; when a conflict arose, a re survey was made & the lowest corrected e

Note :— It is interesting to note that the percentage of Dockage closely corresponds with Total Wheat Production. The increased percentage being caused probably by being stopped for a longer period

TOTAL WHEAT & DOCKAGE FOR THE 4 STATES IN 1923. (4)

Scale 1 = 10.000.000 Bushels.

Total Wheat & Dockage = 153.300.000 Bushels

Dockage = 11 650.800 Bushels = 7·6 %

Note. — The Farmers' in N. & S. Dakota & Minnesota gained

DOCKAGE REACHING MINNEAPOLIS IN 1922. (5)

= 7. 500. 000 Bushels

Cost of Threshing said Dockage = $ 675 00

C

N. Dakota 11·2 %

State Nº of Lamb

E MENACE OF WEEDS TO SPRING WHEAT RAISING

IN THE FOUR STATES

IINNESOTA; NORTH DAKOTA: SOUTH DAKOTA & MONTANA

AUTHORITY

Report Nº 108, dated 28th Jan. 1924, of the 9th Federal Reserve District

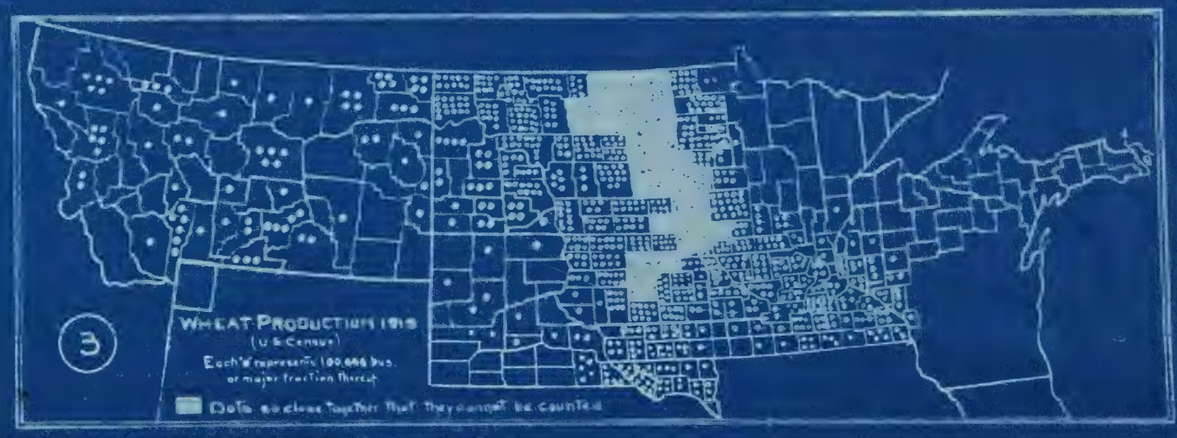
By

John H. Rich, Federal Reserve Agent to Federal Reserve Board

at

WASHINGTON D.C.

Graph Nº 76. Compiled by R.D Bruce under the direction of Wm Pearce. Calgary. March 5th 1924.


3
WHEAT PRODUCTION 1919
(U.S Census)
Each "3" represents 100,000 bus.
or major fraction thereof
Dots so close together that they cannot be counted

ras different und independent sources; when a conflict arose, a re survey was made & the lowest corrected estimate finally adopted.
Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage = 133,300,000 Bushels

,000 Bushels = 7.6 %

NOTE. — The Farmers in N. & S. Dakota & Minnesota gained 7-8 cents per bushel, as result of cleaning before marketing.

,000 Bushels Cost of Threshing said Dockage = $ 675.00 Cost of Tranportation of said Dockage = $ 300.000

State	Nº of Lambs	Value of excess in weight
	2,241,900	$ 5,380,560

3
WHEAT PRODUCTION 1919
(U.S. Census)
Each ● represents 100,000 Bus.
or major fraction thereof
Dots so close together that they cannot be counted

three different and independent sources; when a conflict arose, a re survey was made & the lowest corrected estimate finally adopted.
th Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage = 153 300 000 Bushels

000 Bushels = 7 6 %

NOTE. — The Farmers' in N. & S. Dakota & Minnesota gained 7·3 cents per bushel, as result of cleaning before marketing.

.000 Bushels

Cost of Threshing said Dockage = $ 675.00

Cost of Transportation of said Dockage = $ 000.000

ding to the Dean Coffey College of Agriculture
rsity of Minnesota: 10 lbs of Dockage and 3 lbs of
inous hay will add 1 lb in weight to a 25 lb Lamb,
extra weight is valued at 12 cents per lb. Putting on
on each Lamb, the following is the No of Lambs and the
value that could be so fed by the Dockage from the said States.

(7)

State	No of Lambs	Value of excess in weight
N. Dakota	1 341 300	$ 5.380.560
S. Dakota	650.400	$ 1.560.960
Minnesota	448.800	$ 1.077.120
Montana	307.200	$ 737.280
Total	3.648.300	$ 8.755 920

ta unless rigid means are taken to

of the grains. Weeds in Turn mean Dockage
be at the first elevator it goes into
To do so providing they are paid the
o do the cleaning, but cleaning apparatus
to pay freight on Dockage to the
point where consumed.
the threshing machinery. It is a
threshed. Further, in the Dockage
the latter generally not being good

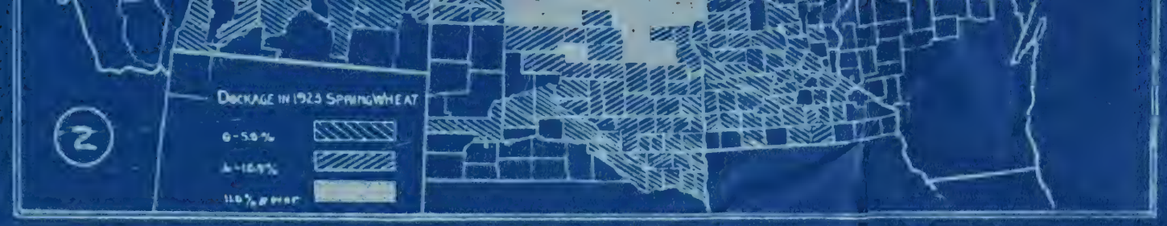
REMEDIES AS PER REPORT.

The cleaning of Wheat and keeping the Dockage at home, of course, feeding it out and thereby replacing to some extent, the exhausted fertility of the soil. Dockage can be fed to sheep without grinding, but for cattle, hogs or poultry it should be ground.

For keeping clear of weeds sheep are the best stock. They trim up the weeds growing along the fences and roads and on any summer fallowing, and feeding the Dockage to them is probably its most profitable disposition.

Proper management of soil, judicious selection of crops for rotation and prohibiting stubbling in of crops is advisable. If rye, buckwheat or some other rapidly maturing crop is grown thickly it will check the weeds and by ploughing in the whole growth before the grain and seeds are matured, the result is a good fertilizer and binder of the soil to prevent drifting. Where possible grow alfalfa, white clover or other thickly growing legumes, they will choke out the weeds and enrich the soil from the bacteria attached to the roots.

Average yield per acre of Spring Wheat; and average percentage of Dockage in Spring Wheat receipts at Minnesota Terminals. Averages as for five-year periods.



(2)

(3)

Report No 108 vouches for accuracy of above Maps or Diagrams, compiled from three different and independent sources. When a conflict arose, a re survey was made & the lowest corrected e

Note :— It is interesting to note that the percentage of Dockage closely corresponds with Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

TOTAL WHEAT & DOCKAGE FOR THE 4 STATES IN 1923 (4)

Scale 1 = 10.000.000 Bushels.

Total Wheat & Dockage = 153.300.000 Bushels

Dockage = 11.650.800 Bushels = 7.6 %

Note :— The Farmers' in N. & S. Dakota & Minnesota joined

DOCKAGE REACHING MINNEAPOLIS IN 1922. (5)

= 7.500.000 Bushels

Cost of Threshing said Dockage = $ 675.00

C

DOCKAGE IN % for 1923

Scale 1" = 10 %

(6)

N. DAKOTA	11.3 %
S. "	7.7 %
MINNESOTA	7.2 %
MONTANA	2.3 %

According to the Dean Coffey College of Agriculture University of Minnesota : 10 lbs of Dockage and 3 lbs of leguminous hay will add 1 lb in weight to a 25 lb lamb, which extra weight is valued at 12 cents per lb. Putting on 20 lbs on each lamb, the following is the No of Lambs and the added value that could be so fed by the Dockage from the said States.

(7)

State	No of Lambs
N. Dakota	3.241.900
S. Dakota	650.400
Minnesota	448.800
Montana	307.200
Total	3.648.300

COMMENTS

The Canadian West, will in a few years be as bad as North Dakota unless rigid means are taken to prevent the growth and dissemination of weeds.

The Spring Wheat areas are more productive of weeds than any other of the grains. Weeds in Turn mean Dockage

If the grain cannot be cleaned on the farm where produced, it ought to be at the first elevator it goes into

Elevator Proprietors object to cleaning, should they not be compelled to do so providing they are paid the cost of same. At present the Elevators generally are not fitted to do the cleaning, but cleaning apparatus can be installed and operated, at a moderate cost. It is absurd to pay freight on Dockage to the Terminal Elevators, and an equal amount of freight on its return to point where consumed.

There is a machine being perfected which is intended to accompany the threshing machinery. It is a separate unit but intended to thoroughly clean the grain as fast as threshed. Further, in the Dockage itself it will separate the coarse edible seeds from the fine ones, the latter generally not being good for Stock feeding purposes.

REMEDIE

The cleaning of Wheat and keeping th

To some extent the exhausted fertility

for cattle, hogs or poultry it should

For keeping clear of weeds sheep

fences and roads and on any suit

its most profitable disposition.

Proper management of soil, judicious

crops is advisable. If rye

thickly it will check the weeds

seeds are matured, The result is u

Where possible grow alfalfa white

weeds and enrich the soil from the

UAA-1974-169-2100-001-007

EXPLANATORY GRAPH #76

6, March, 1924

Dear Sir:-

Attached graph #76, which is thought may be of interest to you. The authority is given in the title.

Said report is issued monthly for the purpose of giving impartial information regarding business conditions and is also distributed free to anybody desiring it. The portion of said report devoted to the weed menace in Spring wheat areas, is certainly invaluable. The under-signed is not aware of a similar publication in Canada. To be of value it is desirable that the report should be issued as promptly as possible after the facts are obtainable.

It is intended to try if possible to obtain the same information as is shown in this graph regarding the 1923 crop in the three Canadian Prairie Provinces. There may be some difficulty in obtaining this data. If you can assist in any way in obtaining it kindly do so.

It would be extremely interesting to ascertain in the crop of 1923 what is the percentage of dockage in the various portions of the wheat producing areas of the three prairie provinces. The result would probably be astonishing as to the amount, particularly in those portions where the crop may have been a poor one.

There are seven different tables in the graph.

1. Is most interesting, showing in the four States enumerated the decrease in the production and the increase in the dockage, for the past twenty years.

2. Shows the different percentages of dockage in the various sections.

3. The output of spring wheat. Two and three should be considered together. The striking feature is that, where the most wheat is produced, the higher the percentage of dockage. That condition probably arises because of the greater length of time the ground has been cropped.

4. Shows the total wheat production and the amount of dockage which it contained. Note the gain per bushel to those farmers who cleaned their grain.

5. Note particularly the cost of threshing and transportation of the dockage.

6. Shows the percentage which is dockage in each of the four States mentioned.

7. Shows the value of the dockage, if it were fed to lambs 3,648,300 in number, and if fed to them would produce in mutton, at twelve cents per pound $8,755, 920.

The total production is probably less than that of Alberta in 1923. Assuming that its dockage averages only one half of what the four States averaged, and it is submitted that such is considerably too low, nearly two million lambs could have been fed in Alberta at a profit of nearly four and a half million dollars. To-day lambs are selling in the open market at Calgary at upwards of twelve cents a pound, the value such increased weight was placed at in the report.

Remedies as per report. The recommendations made are worth of most serious attention. Note the statement regarding the possibility of cleaning grain.

Your attention is specially directed to the comments, particularly the necessity of cleaning the grain so that the dockage may be readily available to be fed out on the land which produced it, thereby, to some extent maintaining the necessary soil fertilisation.

Would it not be advisable that the lessons derived from a study of this should be brought to the attention of the spring wheat growers and others interested in the same, with a view of possibly avoiding to as great an extent as may be possible, the drastic condition to which we are fast approaching, and to some extent probably already reached. Your hearty co-operation is confidently anticipated in the attainment desired.

Respectfully submitted,

Wm. Pearce.

THE MENACE OF WEEDS TO SPRING WHEAT RAISI

IN THE FOUR STATES

MINNESOTA; NORTH DAKOTA; SOUTH DAKOTA & MONTANA

AUTHORITY

Report Nº 108, dated 28th Jan. 1924, of the 9th Federal Reserve District

By

John H. Rich, Federal Reserve Agent to Federal Reserve Board

at

WASHINGTON D.C.

Graph Nº 76.

(1) Average yield per acre of Spring Wheat; and average percentage of "Dockage" in Spring Wheat receipts at Minneapolis terminals. Averages are for five-year periods.

(2)

(3) Wheat P... (u... Each area... or maj... Data

Report Nº 108 vouches for accuracy of above Maps or Diagrams, compiled from three different and independent sources; where a conflict arose, a re-survey was made & the latest correction a...

Note:— It is interesting to note that the percentage of Dockage closely corresponds with Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period...

TOTAL WHEAT & DOCKAGE FOR THE 4 STATES IN 1923. (4)

Scale 1" = 10.000.000 Bushels.

Total Wheat & Dockage = 153.300.000 Bushels.

Dockage = 11.650.800 Bushels = 7·6 %

NOTE :— The Farmers in N. & S. Dakota & Minnesota gained...

DOCKAGE REACHING MINNEAPOLIS IN 1922. (5)

= 7.000.000 Bushels

Cost of Threshing said Dockage = $ 175.000

C...

N. Dakota ... 11·3 %

State | Nº of Lamb...

IE MENACE OF WEEDS TO SPRING WHEAT RAISING

IN THE FOUR STATES

MINNESOTA; NORTH DAKOTA: SOUTH DAKOTA & MONTANA

AUTHORITY

Report Nº 108, dated 28th Jan. 1924, of the 9th Federal Reserve District

By

John H. Rich, Federal Reserve Agent to Federal Reserve Board

at

WASHINGTON D.C.

Graph Nº 76. Compiled by R.O Bruce under the direction of Wm Pearce. Calgary. March 3rd 1924.

three, different and independent sources; when a conflict arose, a re-survey was made & the lowest corrected estimate finally adopted.
th Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage = 133,800,000 Bushels

.800 Bushels = 7·6 %

NOTE :— The Farmers in N. & S. Dakota & Minnesota gained 1·3 cents per bushel, as result of cleaning before marketing.

.000 Bushels Cost of Threshing said Dockage = $ 675.000 Cost of Tranportation of said Dockage = $ 800.000

State	Nº of Lambs	Value of excess in weight

three different and independent sources; when a conflict arose, a re-survey was made & the lowest corrected estimate finally adopted,
th Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage = 155,500,000 Bushels

0,800 Bushels = 7·6 %

NOTE :- The Farmers in N & S Dakota & Minnesota gained 7·5 cents per bushel, as result of cleaning before marketing

0,000 Bushels. Cost of Threshing said Dockage = $ 875,000 Cost of Tranportation of said Dockage = $ 800,000

ding to the Dean, Coffey College of Agriculture
rsity of Minnesota : 10 lbs of Dockage and 2 lbs of
inous hay will add 1lb in weight to a 25 lb Lamb,
extra weight is valued at 12 cents per lb. Putting on
e on each Lamb, the following is the no of Lambs and the
value that could be so fed by the Dockage from the said States.

	State	Nr of Lambs	Value of excess in weight
7	N. Dakota	3,241,800	$ 3,300,600
	S. Dakota	650,400	$ 1,560,960
	Minnesota	448,800	$ 1,077,120
	Montana	307,200	$ 737,280
	Total	3,648,300	$ 8,755,920

To unless rigid means are taken to

of the grains. Weeds in Turn mean Dockage
be at the first elevator it goes into
d to do so providing they are paid the
to do the cleaning, but cleaning apparatus
To pay freight on Dockage To the
point where consumed.
the threshing machinery: It is a
threshed. Further; in the Dockage
the latter generally not being good

Remedies as per Report.

The cleaning of Wheat and keeping the Dockage at home, of course, feeding it out and thereby replacing to some extent, the exhausted fertility of the soil. Dockage can be fed to sheep without grinding, but for cattle, hogs or poultry it should be ground.

For keeping clear of weeds sheep are the best stock. They trim up the weeds growing along the fences and roads and on any summer fallowing, and feeding the Dockage to them is probably its most profitable disposition.

Proper management of soil, judicious selection of crops for rotation and prohibiting stubbling in of crops is advisable. If rye, buckwheat or some other rapidly maturing crop is grown thickly it will check the weeds and by ploughing in the whole growth before the grain and seeds are matured, the result is a good fertilizer and binder of the soil to prevent drifting.

Where possible grow alfalfa, white clover or other thickly growing legumes, they will choke out the weeds and enrich the soil from the bacteria attached to the roots.

Average yield per acre of Spring Wheat; and average percentage of Dockage in Spring Wheat receipts at Minneapolis Terminals. Averages are for five-year periods.

Report No 100 vouches for accuracy of above Maps or Diagrams, compiled from three different and independent sources: when a conflict arose, a resurvey was made & the lowest corrected estimate adopted.

NOTE :— It is interesting to note that the percentage of Dockage closely corresponds with Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

TOTAL WHEAT & DOCKAGE FOR THE 4 STATES IN 1923. (4)

Scale 1" = 10.000.000 Bushels.

Total Wheat & Dockage = 132.500.000 Bushels

Dockage = 11.650.800 Bushels = 7·6 %

NOTE :— The Farmers in N & S Dakota & Minnesota gained this

DOCKAGE REACHING MINNEAPOLIS IN 1922 (5)

= 7.500.000 Bushels

Cost of Threshing said Dockage = $ 675.000

Cost

DOCKAGE IN % for 1923. (6)

Scale 1" = 10 %

N. DAKOTA	11·2 %
S. "	7·7 %
MINNESOTA	7·2 %
MONTANA	2·5 %

According to the Dean, Coffey College of Agriculture University of Minnesota : 10 lbs of Dockage and 3 lbs of leguminous hay will add 1 lb in weight to a 25 lb Lamb, which extra weight is valued at 12 cents per lb. Putting on 20 lbs on each Lamb, the following is the No of Lambs and the added value that could be so fed by the Dockage from the said States. (7)

State	No of Lambs
N. Dakota	2.241.800
S. Dakota	650.400
Minnesota	448.800
Montana	307.200
Total	3.648.300

COMMENTS

The Canadian West, will in a few years be as bad as North Dakota unless rigid means are taken to prevent the growth and dissemination of weeds.

The Spring Wheat areas are more productive of weeds than any other of the grains. Weeds in turn mean Dockage. If the grain cannot be cleaned on the farm where produced, it ought to be at the first elevator it goes into. Elevator Proprietors object to cleaning, should they not be compelled to do so providing they are paid the cost of same. At present, the Elevators generally, are not fitted to do the cleaning, but cleaning apparatus can be installed and operated at a moderate cost. It is absurd to pay freight on Dockage to the Terminal Elevators, and an equal amount of freight on its return to point where consumed.

There is a machine being perfected, which is intended to accompany the threshing machinery: It is a separate unit, but intended to thoroughly clean the grain as fast as threshed. Further; in the Dockage itself it will separate the coarse edible seeds from the fine ones, the latter generally not being good for Stock feeding purposes.

REMEDIES

The cleaning of Wheat and keeping the D
To some extent, the exhausted fertility of
for cattle, hogs or poultry it should be
For keeping clear of weeds sheep ar
fences and roads and on any summe
its most profitable disposition.
Proper management of soil, judicious s
crops is advisable. If rye, bu
thickly it will check the weeds and
seeds are matured, the result is a go
Where possible grow alfalfa, white cl
weeds and enrich the soil from the bac

USA-1974-169-2100-001-008

THE MENACE OF WEEDS TO SPRING WHEAT RAISIN

IN THE FOUR STATES

MINNESOTA; NORTH DAKOTA; SOUTH DAKOTA & MONTANA

AUTHORITY

Report No 108, dated 28th Jan. 1924, of the 9th Federal Reserve District

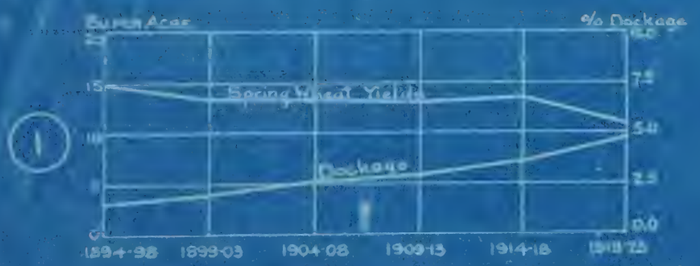
By

John H. Rich, Federal Reserve Agent to Federal Reserve Board

at

WASHINGTON D.C.

Graph No 76. Ca



1

Average yield per acre of Spring Wheat; and average percentage of "Dockage" in Spring Wheat receipts at Minneapolis Terminals. Averages for 5 yr. five-year periods.

2

3

Report No 108 vouches for accuracy of above Maps or Diagrams, compiled from three different and independent sources; when a conflict arose, a re survey was made & the lowest corrected estimate was accepted.

Note :— It is interesting to note that the percentage of Dockage closely corresponds with Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

TOTAL WHEAT & DOCKAGE FOR THE 4 STATES IN 1923. 4

Scale 1" = 10.000.000 Bushels.

Total Wheat & Dockage = 153.300.000 Bushels

Dockage = 11.650.800 Bushels = 7.6 %

NOTE :— The Farmers in N. & S. Dakota & Minnesota gained t

DOCKAGE REACHING MINNEAPOLIS IN 1922. 5

= 7.500.000 Bushels

Cost of Threshing said Dockage = $ 675.000

Co

N. DAKOTA

According to the Dean Coffey College of Agriculture,

State

N. Dakota

No of Lambs

IE MENACE OF WEEDS TO SPRING WHEAT RAISING

IN THE FOUR STATES

MINNESOTA; NORTH DAKOTA: SOUTH DAKOTA & MONTANA

AUTHORITY

Report Nº 108, dated 28th Jan. 1924, of the 9th Federal Reserve District

By

John H. Rich, Federal Reserve Agent to Federal Reserve Board

at

WASHINGTON D.C.

Graph Nº 76. Compiled by R.D. Bruce under the direction of Wm Pearce. Calgary. March 5th 1924.

three different and independent sources; when a conflict arose, a re survey was made & the lowest corrected estimate finally adopted.
th Total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage = 193 300.000 Bushels

.800 Bushels = 7.6 %

NOTE :— The Farmers in N. & S. Dakota & Minnesota gained 7.5 cents per bushel, as result of cleaning before marketing.

. 000 Bushels

Cost of Threshing said Dockage = $ 675.000

Cost of Tranportation of said Dockage = $ 800.000

ding to the Dean Coffey College of Agriculture)

State	Nº of Lambs	Value of excess in weight
N. Dakota	2 241 900	$ 5 380 560

3
WHEAT PRODUCTION 1919
(U.S. Census)
Each ● represents 100,000 bus.
or major fraction thereof
Dots so close together that they cannot be counted

three different and independent sources; when a conflict arose, a re-survey was made & the lowest corrected estimate finally adopted:
with total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage = 153 300 000 Bushels

50.800 Bushels = 7·6 %

NOTE :— The Farmers in N. & S. Dakota & Minnesota gained 7·5 cents per bushel, as result of cleaning before marketing.

00.000 Bushels

Cost of Threshing said Dockage - $ 675.000

Cost of Tranportation of said Dockage - $ 800.000

ording to the Dean, Coffey College of Agriculture
ersity of Minnesota: 10 lbs of Dockage and 5 lbs of
minous hay will add 1 lb in weight to a 25 lb Lamb.
h extra weight is valued at 12 cents per lb. Putting on
es on each Lamb, the following is the Nº of Lambs and the
d value that could be so fed by the Dockage from the said States.

(7)

State	Nº of Lambs	Value of excess in weight
N. Dakota	1 741 800	$ 5.300.560
S. Dakota	650.400	$ 1.560.960
Minnesota	448.800	$ 1.077.120
Montana	307.200	$ 737.280
Total	3 648.300	$ 8.755 920

kota unless rigid means are taken to

r of the grains. Weeds in Turn mean Dockage
o be at the first elevator it goes into
d to do so providing they are paid the
To do the cleaning, but cleaning apparatus
d to pay freight on Dockage to the
e point where consumed.
the threshing machinery. It is a
threshed. Further; in the Dockage
the latter generally not being good

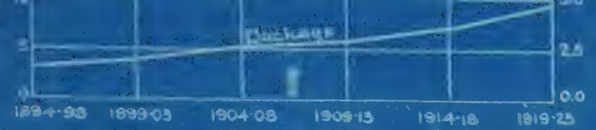
REMEDIES AS PER REPORT.

The cleaning of Wheat and keeping the Dockage at home, of course, feeding it out and thereby replacing to some extent, the exhausted fertility of the soil. Dockage can be fed to sheep without grinding, but for cattle, hogs or poultry it should be ground.

For keeping clear of weeds sheep are the best stock. They trim up the weeds growing along the fences and roads and on any summer fallowing, and feeding the Dockage to them is probably its most profitable disposition.

Proper management of soil, judicious selection of crops for rotation and prohibiting stubbling in of crops is advisable. If rye, buckwheat or some other rapidly maturing crop is grown thickly it will check the weeds and by ploughing in the whole growth before the grain and seeds are matured, the result is a good fertilizer and binder of the soil to prevent drifting.

Where possible grow alfalfa, white clover or other thickly growing legumes. They will choke out the weeds and enrich the soil from the bacteria attached to the roots.



Average yield per acre of Spring Wheat; and average percentage of "Dockage" in Spring Wheat receipts at Minnesota terminals. Averages are for five-year periods.

Report N° 100 vouches for accuracy of above Maps or Diagrams, compiled from three different and independent sources; when a conflict arose, a re-survey was made & the lowest corrected estimate Note :— It is interesting to note that the percentage of Dockage closely corresponds with total Wheat Production. The increased percentage being caused probably by being cropped for a longer period.

Total Wheat & Dockage for the 4 States in 1923.

(4)

Scale 1" = 10,000,000 Bushels.

Total Wheat & Dockage = 193,500,000 Bushels

Dockage = 11,650,500 Bushels = 7-8 %

Note :— The Farmers in N & S Dakota & Minnesota gained 75

Dockage reaching Minneapolis in 1922.

(5)

= 7,500,000 Bushels

Cost of Threshing said Dockage = $ 375,000

Cost

Dockage in % for 1923

Scale 1" = 10 %

(6)

N. Dakota	11.3 %
S. "	7.7 %
Minnesota	7.3 %
Montana	2.9 %

According to the Dean, Coffey College of Agriculture University of Minnesota : 10 lbs of Dockage and 2 lbs of leguminous hay will add 1 lb in weight to a 25 lb Lamb, which extra weight is valued at 12 cents per lb. Putting on 20 lbs on each Lamb, the following is the N° of Lambs and the added value that could be so fed by the Dockage from the said States.

(7)

State	N° of Lambs
N. Dakota	2,291,800
S. Dakota	650,400
Minnesota	498,800
Montana	307,200
Total	3,648,300

Comments

The Canadian West, will in a few years be as bad as North Dakota unless rigid means are taken to prevent the growth and dissemination of weeds.

The Spring Wheat areas are more productive of weeds than any other of the grains. Weeds in turn mean Dockage If the grain cannot be cleaned on the farm where produced, it ought to be at the first elevator it goes into Elevator Proprietors object to cleaning, should they not be compelled to do so providing they are paid the cost of same. At present the Elevators generally are not fitted to do the cleaning, but cleaning apparatus can be installed and operated at a moderate cost. It is absurd to pay freight on Dockage to the Terminal Elevators, and an equal amount of freight on its return to point where consumed.

There is a machine being perfected, which is intended to accompany the threshing machinery. It is a separate unit, but intended to thoroughly clean the grain as fast as threshed. Further, in the Dockage itself it will separate the coarse edible seeds from the fine ones, the latter generally not being good for Stock feeding purposes.

Remedies

The cleaning of Wheat and keeping the D
To some extent, the exhausted fertility of
for cattle, hogs or poultry it should be
For keeping clear of weeds sheep ar
fences and roads and on any summe
its most profitable disposition.
Proper management of soil, judicious s
crops is advisable. If rye, bu
thickly it will check the weeds and
seeds are matured, the result is a goo
Where possible grow alfalfa, white clov
weeds and enrich the soil from the bac

9 1 #

WAA-1974-169-2100-001-009

CANADIAN PACIFIC RAILWAY COMPANY

COLONIZATION AND DEVELOPMENT BRANCH

J. S. DENNIS
CHIEF COMMISSIONER

COMPILED BY W. P. E. A. ROE
Calgary 15th March 1918

№ 19

Census June 1916

Showing by Federal Constituencies, Annual Output, Grain, Stock, Cultivated Land, Lands apart for entry etc. etc.
There are 43 Federal Constituencies in the 3 Prairie Provinces. The rural numbers are subject hereafter for the whole of the said Provinces.

Federal Constituencies in alphabetical Sequence.

№	Constituency	Province
1	Assiniboia	Sask.
2	Battleford	Sask.
3	Bella River	Alta.
4	Bow River	Alta.
5	Brandon	Man.
6	Calgary E.	Alta.
7	Calgary W.	Alta.
8	Dauphin	Man.
9	Edmonton C.	Alta.
10	Edmonton N.	Alta.
11	Humboldt	Sask.
12	Kindersley	Sask.
13	Last Mountain	Sask.
14	Lethbridge	Alta.
15	Lisgar	Man.
16	Macdonald	Man.
17	Mackenzie	Sask.
18	Macleod	Alta.
19	Maple Creek	Sask.
20	Medicine Hat	Alta.
21	Marquette	Man.
22	Moosejaw	Sask.
23	Nanaimo	Man.
24	Nelson	Man.
25	North Battleford	Sask.
26	Portage la Prairie	Man.
27	Prince Albert	Sask.
28	Provencher	Man.
29	Qu'Appelle	Sask.
30	Regina	Sask.
31	Red Deer	Alta.
32	Saskatoon	Sask.
33	Souris	Sask.
34	Stanley	Man.
35	Souris	Man.
36	Springfield	Man.
37	Strathcona	Alta.
38	Swift Current	Sask.
39	Victoria	Alta.
40	Weyburn	Sask.
41	Winnipeg C.	Man.
42	Winnipeg N.	Man.
43	Winnipeg S.	Man.

Total and Rural Populations ①

Total 1,658,808 (100%) — Man 553,860 (33.4%) — Sask. 647,835 (39.1%) — Alta 496,523 (29.93%)
Rural 1,124,655 — " 319,459 — " 496,103 — " 315,813

Scale: 1" = 25,000

Rural Population in this differs from that given in Census returns. To the amount given in the Census is added 2% for Hay Cutters, 3% of the Rural & 20% of the Villages, situated within the said constituency.

Rural Population in Sequence. ⑭

Rural Total 1,124,655 (100%) — Man 319,459 (28.5%); Sask 496,103 (44.1%); Alta 315,813 (28.1%)

Scale: 1" = 25,000

№	Constituency	Rural Population
1	Winnipeg C.	47,938
2	Winnipeg N.	63,616
3	Edmonton N.	42,200
4	Springfield	43,000
5	Edmonton C.	40,000
6	Strathcona	43,000
7	Victoria	44,000
8	Swift Current	44,000
9	Winnipeg S.	42,000
10	Maple Creek	42,000
11	Stanley	42,000
12	Humboldt	42,000
13	Moosejaw	44,000
14	Mackenzie	43,219
15	Prince Albert	37,939
16	Red Deer	43,000
17	Last Mountain	41,000
18	Brandon	41,000
19	Nanaimo	41,000
20	Battle River	41,000
21	Medicine Hat	41,000
22	Calgary W.	40,000
23	Calgary E.	40,000
24	Strathcona	40,000
25	N. Battleford	38,000
26	Marquette	38,000
27	Kindersley	36,000
28	Souris	36,000
29	Assiniboia	36,000
30	Regina	36,000
31	Bow River	36,000
32	Macleod	36,000
33	Qu'Appelle	36,000
34	Lethbridge	35,000
35	Dauphin	35,000
36	Battleford	35,000
37	Souris	35,000
38	Lisgar	35,000
39	Nanaimo	35,000
40	Provencher	35,000
41	Macdonald	35,000
42	Portage la Prairie	35,000
43	Nelson	35,000

Annual Output ⑪

Annual Output is arrived at as follows, being the sum of the № of horsepowers of Wheat multiplied by $ 1.905 for Man $ 1.94 for Sask and $ 2.14 for Alta;
Oats multiplied by $ .560 for Man $ .568 for Sask and $ .596 for Alta; Barley " " $ .506 " " $ .468 " " $ .40 " "
Flax " " $ 1.848 " " $ 1.848 " " $ 1.90 " "
25% of the № of Horses multiplied by $ 100.00; 25% of the № of Cattle multiplied by $ 46.00; assumed value of each in dollars
50% " " " Sheep " " $ 8.40; 80% " " " Pigs " " $ 11.00;
The value of Grain is taken from Census Estimate for Manitoba, allowing 1.5% per hundred as extra freight charge for Sask points and
15% " " " " " " " " " " " " " Alta " " to Fort William

Annual Output ⑪

Total $ 53,649,062; Man $ 10,548,942; Sask $ 28,895,084; Alta $ 15,206,036
100% — 20.52% — 54.26% — 25.22%

Annual Output per unit of Rural Population ⑫

Total per unit $ 457.97; Man $ 330.0; Sask $ 594.3; Alta $ 377.7

Scale: 1" = $ 200

№	Constituency	Annual Output per unit of Rural Population
1	Calgary E.	$ 232.14
2	Last Mountain	$ 252.32
3	Regina	$ 342.16
4	Maple Creek	$ 241.25
5	Weyburn	$ 713.32
6	Bow River	$ 713.24
7	Moosejaw	$ 706.82
8	Lethbridge	$ 204.00
9	Assiniboia	$ 230.39
10	Battleford	$ 677.80
11	Swift Current	$ 677.80
12	Stanley	$ 677.80
13	Macdonald	$ 521.27
14	Souris	$ 521.27
15	Qu'Appelle	$ 521.27
16	Prince Albert	$ 514.37
17	Mackenzie	$ 514.37
18	Red Deer	$ 514.37
19	Nanaimo	$ 514.37
20	Provencher	$ 514.37
21	Edmonton N.	$ 514.37
22	Edmonton C.	$ 514.37
23	Strathcona	$ 514.37
24	Lisgar	$ 514.37
25	Moosejaw	$ 514.37
26	Portage la Prairie	$ 514.37
27	Qu'Appelle	$ 514.37
28	Dauphin	$ 514.37
29	Souris	$ 514.37
30	Macleod	$ 514.37
31	Battle River	$ 514.37
32	Nanaimo	$ 514.37
33	Nelson	$ 514.37
34	Marquette	$ 514.37
35	Lethbridge	$ 514.37
36	Nelson	$ 514.37
37	Portage la Prairie	$ 514.37
38	Calgary E.	$ 514.37
39	Regina	$ 514.37
40	Calgary W.	$ 514.37

Total Bushels Wheat ④

319,459,815 (100%) — Man 69,248,225 (19.23%) — Sask 174,34,596 (42.29%) — Alta 66,534,091 (18.48%)

Scale: 1" = 3% or 10,000,000 Bushels

Bushels of Wheat per Acre ⑭

Bushels per Acre — Total 15.27 Bush; Man 16.1 Bush; Sask 20.18 Bush; Alta 30.3 Bush

Scale: 1" = 20 Bushels

№ of Bushels of Wheat per unit of Rural Population ⑩

Rural Total per unit — Man 321.0; Sask 214.7; Alta 210.6

Scale: 1" = 200 Bushels

Total Bushels Oats ⑤

279,635,693 (100%) — Man 58,694,544 (18.13%) — Sask 145,465,520 (51.88%) — Alta 83,875,629 (29.99%)

Scale: 1" = 3% or 8,389,070

Bushels of Oats per Acre ⑮

Bushels per Acre — Total 42.32 — Man 38.64 — Sask 43.43 — Alta 42.30

Scale: 1" = 20 Bushels

№ of Bushels of Oats per unit of Rural Population ⑨

Rural Total per unit — Man 183.4; Sask 298.4; Alta 248.5

Scale: 1" = 200 Bushels

AN PACIFIC RAILWAY COMPANY

COLONIZATION AND DEVELOPMENT BRANCH

J. S. DENNIS
CHIEF COMMISSIONER

COMPILED BY W.F.E.A. ROE
Calgary 15th March 1918

Census June 1916

Showing by Federal Constituencies, Annual Output, Grain, Stock, Cultivated Land, Lands open for entry etc. etc.
There are 43 Federal Constituencies in the 3 Prairie Provinces. The rank locates the subject treated for the whole of the said Provinces.

Annual Output —

Annual Output ③

Value in $ of Annual Output per unit of Rural Population. ③A

Area Available for settlement showing Area Cultivated ②

Acreage Cultivated per Head of Rural Population ②A

Bushels of Oats per Acre ②B

No of Bushels of Oats per unit of Rural Population ②C

No of Acres of Land open annually for settlement ③

No of Acres Cultivated Land per unit of Rural Population ③A

Bushels of Wheat per Acre ③B

No of Bushels of Wheat per unit of Rural Population ③C

No. of Horses per unit of Rural Population

Total No. per unit: 1.40 — Man. 1.41 — Sask. 1.39 — Alta. 1.39

Scale: 1" = 2 Head

No. of Horses cultivated per Farm

Total per Farm 125.6 ac. — Man. 125.2 ac. — Sask. 132.6 ac. — Alta. 93.5 ac.

Scale: 1" = 200 Acres

Total No. of Cattle

Total: 1,794,924; Man. 323,977; Sask. 861,807; Alta. 609,140

No. per Farm: 8.88 — Man. 6.87 — Sask. 11.4 — Alta. 9.26

Scale: 1" = 60,000 Head.

Cattle per Farm

Total per Farm: 11.06 — Man. 11.74 — Sask. 9.78 — Alta. 13.19

Scale: 1" = 10

No. of Cattle per unit of Rural Population

Total: 1.40 — Man. 1.47 — Sask. 1.48 — Alta. 1.27

Scale: 1" = 2 Head

No. of Sheep per unit of Rural Population

Total: 0.33 — Man. 0.24 — Sask. 0.41 — Alta. 0.33

Scale: 1" = 30,000

No. of Sheep per unit of Rural Population

Total: 0.26 — Man. 0.24 — Sask. 0.31 — Alta. 0.23

Scale: 1" = 2 Head

No. of Pigs

Total: 1,161,465; Man. 213,659; Sask. 486,147; Alta. 315,643

No. of Farms: 159,185 — Man. 47,122 — Sask. 104,048 — Alta. 67,377

Av. per Farm: 5.28 — Man. 6.78 — Sask. 9.67 — Alta. 4.65

Scale: 1" = 60,000

No. of Pigs per unit of Rural Population

Total: 0.81 — Man. 0.68 — Sask. 0.97 — Alta. 0.77

Scale: 1" = 2 Head

Horses per Farm.

Total: 1,794,924; Man. 323,977; Sask. 861,807; Alta. 609,140

No. per Farm: 8.88 — Man. 6.87 — Sask. 11.4 — Alta. 9.26

Scale: 1" = 200 Acres

Cattle per Farm.

Total: 1,725,674; Man. 556,198; Sask. 464,813; Alta. 704,663

No. per Farm: 11.06 — Man. 11.74 — Sask. 9.78 — Alta. 13.19

Scale: 1" = 10

Sheep per Farm.

Total: 492,811; Man. 91,241; Sask. 194,597; Alta. 206,973

No. per Farm: 3.33 — Man. 1.93 — Sask. 4.10 — Alta. 3.07

Scale: 1" = 10

Pigs per Farm.

Total: 1,161,465; Man. 323,659; Sask. 486,147; Alta. 315,643

No. per Farm: 5.28 — Man. 6.78 — Sask. 9.67 — Alta. 4.65

Scale: 1" = 10

Rural Population per Farm.

Total: 1,161,465; Man. 213,659; Sask. 486,147; Alta. 315,643

No. of Farms: 159,185 — Man. 47,122 — Sask. 104,048 — Alta. 67,377

Av. per Farm: 5.28 — Man. 6.78 — Sask. 9.67 — Alta. 4.65

Scale: 1" = 10

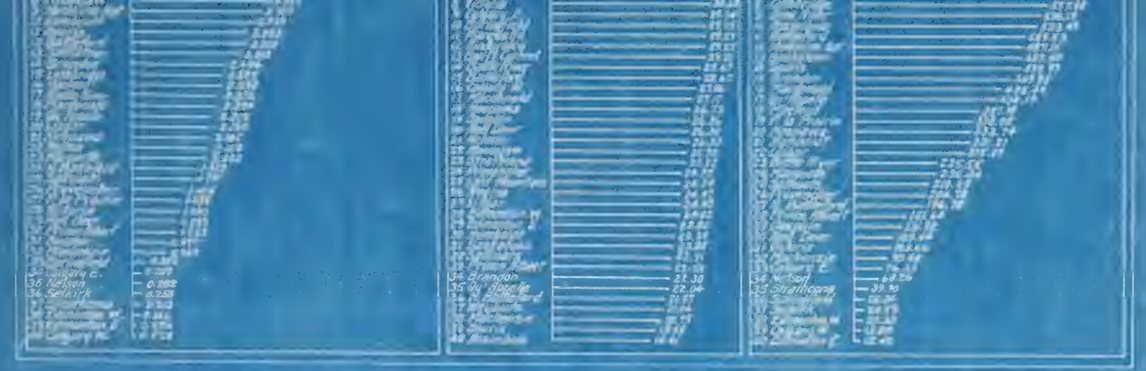
Annual Output per Farm

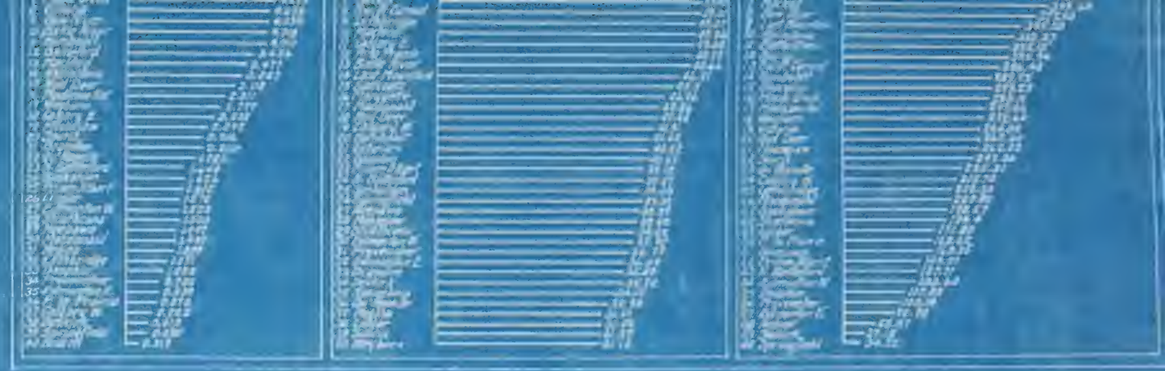
Total Output: $34,483,882; Man. $10,401,842; Sask. $20,315,689; Alta. $9,766,351

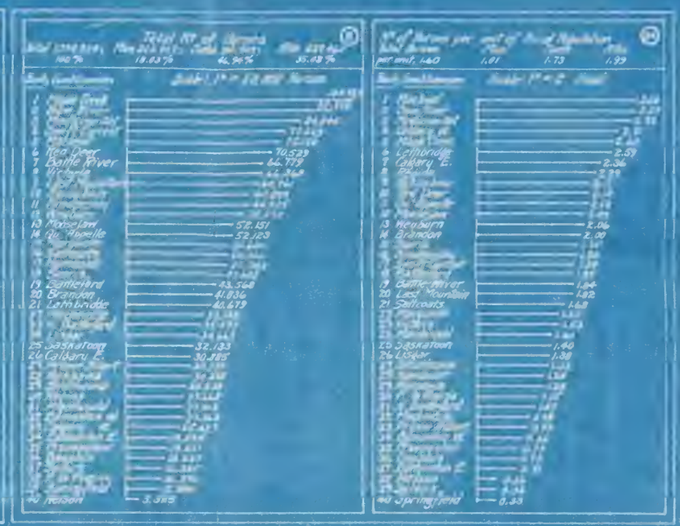
No. of Farms: 159,185 — Man. 47,122 — Sask. 104,048 — Alta. 67,377

Average Value: $2,346.76 — $ 2,209.06 — $ 2,721.87 — $ 1,741.11

Scale: 1" = $200







WAA-1974-159-2100-001-003

OUTLINE MAP OF CANADA

West of Longitude 88 degrees (which is some distance east of Port Arthur and Fort William) to the Pacific Ocean, Latitude, showing the Railway Systems and Land Grants of Alberta.

COAL OUTPUT OF ALBERTA
1923

AUTHORITY FOR PRODUCTION, DISPOSITION, WHEN AND WHERE PRODUCED:- MINES BRANCH REPORT OF THE PROVINCE OF ALBERTA.

GRAPH NUMBER. 78 — COMPILED BY R.D.BRUCE & G.LAING. under the direction of Wm. PEARCE. — Calgary, Alberta, July, 1924.

Total Output = 7,696,211 Tons or 100% Scale 1" = 481,013 Tons or 6·66%

Domestic Alberta 3,161,714 Tons or 41·08% of total — Sub Bit. Alberta. 163,461 Tons or 6·02% — Bituminous, Alberta. 3,241,614 Tons

Total Sales 7,276,544 Tons or 100% Scale 1" = 454,781·5 Tons or 6·66%

Sub. Bituminous Alberta 2,373,566 Tons or 40·66% of total — Sub. Bituminous 309,022 Tons or 5·63% — Bituminous Alberta 3,131,623 Tons

Disposition of East Kootenay, British Columbia, production.

Total Sales of Coal from said points to Canada & U.S.A. = 742,327 Tons or 100%
Scale. 1" = 20%
Coal Creek 445,290 Tons or 58·41% — Michel 247,749 Tons or 35·1% — Corbin 49,288 — 6·46%

Total Sales in Canada = 352,010 Tons or 100%
Scale 1" = 20%
Coal Creek 126,949 Tons or 36·05% — Michel 189,238 Tons or 53·78% — Corbin 35,824 — 10·167

Note: Of those 352,010 Tons, 59,767 Tons were converted into Coke producing 66·04% of said weight of Coal as Coke.

Graph showing where the Lignite or Domestic Coals were disposed of outside the Province; viz:- B.C., Saskatchewan, Manitoba, Ontario, and [illegible]

LIGNITE OR DOMESTIC SALES FOR 1923

	ALBERTA	SASKATCHEWAN	MANITOBA	ONTARIO
1 Commerce	444.115 Tons	1,275,448 Tons	132,198 Tons	0.29 %
2 Hillcrest	4,268	2,241	1,796	0.046
3 Pass Creek	2,148	2,820	1,313	0.028
4 Bellevue	21,882	21,882	9,121	0.23
5 Frank	2,880	2,880	1,200	0.031
6 Blairmore	22,128	22,128	9,220	0.239
7 Coleman	4,320	4,320	1,800	0.046
8 Passburg				
9 Hosmer	717,500	2,151,499	895,624	18.66
10 Wayne				
11 Drumheller	41,148	123,444	51,435	1.33
12 Rosedale	9,216	9,216	3,840	0.10
13 Delia	20,736	62,208	25,920	0.67
14 Munson	11,088	33,264	13,860	0.36
15 Rumsey	6,480	19,440	8,100	0.21
16 Battle River	17,403	18,397	7,665	0.20
17 Camrose	72,656	70539	29,391	1.08
18 Tofield	124,836	103,215	43,006	1.58
19 Clover Bar	395,371	375,629	156,512	5.77
20 Edmonton	120,112	127,768	53,237	1.96
21 Strathcona	5,241	4,823	2,009	0.153

(1)

Coal Output of Alberta and East Kootenay District of British Columbia Combined.

Total Output = 7,696,211 Tons or 100% Scale 1" = 481,013 Tons or 6·66%

Sub. Bit. Alberta. 963,941 Tons or 12·52% — Bituminous, Alberta. 3,241,614 Tons or 42·12% of Total. — Bituminous B.C. 827,395 Tons or 10·78% of total.

Total Sales 7,276,544 Tons or 100% Scale 1" = 454,781·5 Tons or 6·66%

Sub. Bituminous 963,941 Tons or 5·23% — Bituminous Alberta 3,241,614 Tons — 44·55% of Total — Bituminous B.C. 827,395 Tons — 11·37% of total

Disposition of East Kootenay, British Columbia, production.

Scale 1" = 20%

Coal Creek 445,290 Tons or 50·41% — Michel 247,789 Tons or 28·14% — Corbin 49,290 — 6·96%

Scale 1" = 20%

Coal Creek 126,914 Tons or 36·05% — Michel 189,298 Tons or 53·78% — Corbin 35,798 — 10·16%

Note. Of these 352,010 Tons, 59,967 Tons were converted into Coke producing 68·04% of said weight of Coal as Coke.

Scale 1" = 20%

Coal Creek 318,376 Tons or 77·59% — Michel 78,491 Tons or 19·11% — Corbin 13,200 — 3·29%

Note. Of these, 410,317 Tons, 40,876 Tons were converted into Coke, producing 68·04% of said weight of Coal as Coke.

(N)

Graphs E.F.G., see titles to same which show what is intended to be shown.

[illegible] Bituminous ranging from 2[illegible] Tons in April to 1,826,652 Tons in November [illegible] 1923 sections, and namely the amounts [illegible]

Graph G. [illegible] Bituminous B.C. [illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

The [illegible] was completed to enable progress [illegible] Bituminous [illegible] Tons [illegible] Bituminous [illegible] Tons [illegible] Bituminous [illegible] Tons

Bituminous B.C.
829,395 Tons
or 10·79% of total.

Bituminous B.C.
762,327 Tons
or 10·47% of total.

A. = 410,217 Tons or 100%
1" = 20%

Tons or 77·53% Michel 78,441 Tons Carbon 13,500 or 19·11% 3·29%

7 Tons; 40,576 Tons were converted into Coke;
% of said weight of Coal as Coke.

s showing Sales in Tonnages and Percentages.

total sales of kind from Alberta to destination indicated.
on total sales of kind outside of Alberta (1,750,778 tons Lignite and 1,825,652 Tons Bituminous)
" " " of all kinds outside Alberta excepting to Railways

NITED STATES			RAILWAYS			
Tons or	% of 11,181 A.	% of 1,750,778 B.	% of 3,576,430 C.	—	A.	B.	C.
			0·31				
	52	0·46	0·23				
	14	0·02	0·01				
	0·31	0·003	0·001				
	1·23	0·014	0·007				
	5·27	0·122	0·032				
		1·203	0·536				
	100·00						

Graphs E.F.& G. see titles to same which show what is intended to be shown. The information conveyed in these graphs is very striking namely, the great variability in the monthly outputs. For instance the Lignites, in graph E. vary from 411,518 tons in May to 1,831,548 tons in November. The Bituminous varys from 734,167 tons in April to 1,358,653 tons in January. It will be observed that they represent the amounts for the four years, 1920 to 1923 inclusive, not merely the amounts for any one year, and it is thought that they represent fairly accurately the general conditions of Mining in Alberta. The Tonnages marked are the amount for the four years.

Graph F. Taking the Bituminous and Sub-Bituminous combined, the Crowsnest Field which is the largest producer, varies from 48% in April to 130% in December. Mountain Park, the second largest producer, varies from 64% in June to 183% in March. The other four chief producers do not vary so very materially, from the fact that the output is nearly all taken direct by the railways which tends to make the demand more uniform than when dealing in commercial Coals. These six fields shown in graph F. namely, the Crowsnest Pass which produces 93.32% of the total sales of Bituminous coals and Mountain Park 17.13%, Bruceau 13.73% Yellowhead 9.27%, Canmore 7.99% and Jasper Park 5.62% combined equal 37.73% of the total production, leaving 2.80% to be divided among the other four fields namely, Saunders, Rocher Creek, High River and Calgary.

Graph G. shows the total domestic output. Number seven - the total output - varies from less than 80% in May to 172% in November. Tofield varies from 44% in April to 205% in November. Tofield however is a stripping proposition, and so far as labor is concerned, it is not so vital as in the others. Take Drumheller, the largest field of all, it varies from 25% in May to 193% in Nov. Lethbridge from 83% in May to 163% in November. Clover Bar from 36% in June to 148% in November.

The Percentage of each field is of the Total Sales.

Drumheller	40·12%
Lethbridge	19·60%
Clover Bar	12·63%
Edmonton	4·30%
Tofield	3·47%
Pembina	2·22%
Total	83·24%

leaving a balance of 16·26% to be divided among the other 27 fields.

The value of the Coal Industry can probably be better gauged by a comparison of Sales than by comparison of output. Basing it on Sales for Alberta and the East Kootenay District of British Columbia viz:- 7,276,544 tons combined, the domestic of Alberta represents 40·06% of the whole, Sub-Bituminous, Alberta 5·62% Bituminous Alberta 43·03% and Bituminous from British Columbia 10·47%. Combining the Bituminous of Alberta and Bituminous of British Columbia the percentage would be 53·50% of the whole, adding thereto the percentage of Sub-Bituminous would make 59·13% of the whole.

Limited to the Province of Alberta, the total sales of the Alberta domestic, Bituminous and Sub-Bituminous are 6,548,217 tons. The Sales of Domestic represents 45·72% of the whole, Sub-Bituminous 6·13% and Bituminous 48·15 %. Sub-Bituminous and Bituminous combined 54·28%. The Coal produced in the Province of Alberta and sold outside of it will demonstrate a greater difference between the Sales of the Domestic and the Balance.

Note 100% is the Average for the Term. See Graphs E.F.& G.

It is very evident that owing to the great irregularity in the output of production, particularly in the case of domestic coals which varies for the four years from slightly over 39% for May to 175% in November and the total Bituminous and Sub Bituminous output for the four years varies from somewhat over 68% in June to 125% in January. If we want to obtain cheap production, it is desirable to have uniformity of demand, or at least be able to approach an approximation of same, throughout the year.

How can this be obtained?

Would it be possible to handle and store without very much cost, our domestic coals during the months of April, May, June and July, when the production is 79·35% of the average amount of the production, [illegible] to some extent during the months of April, May and June, when the average production is 76·62% of the average production throughout the year. It would appear probable that so far as the Bituminous are concerned that they ought to be able to be stored without very much loss from weathering, but, of course, there is a certain amount of risk from spontaneous combustion. Spontaneous combustion risks also affect domestic coals.

By some it is strenuously contended that the consumption of Alberta coals can be best extended by converting our coking Bituminous coals into domestic coke as a substitute for Anthracite or any other high grade fuels, utilizing also the various valuable by-products obtained in making said coke. Such a course would avoid practically all the loss from weathering and altogether that from spontaneous combustion. So far no commercially practical process has been evolved to convert the Lignites into a shape impervious to weathering, disintegration or spontaneous combustion.

INDEX

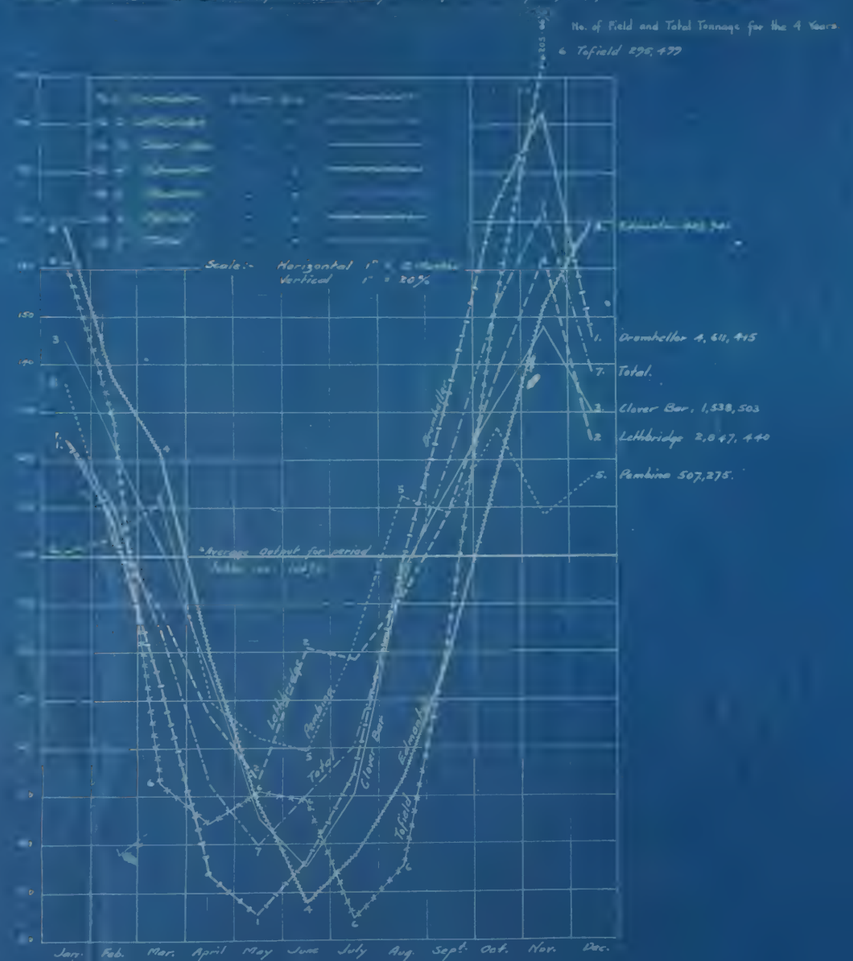
	TABLES
Alberta Coal, total Output and Total Sales.	A
Alderyale, Production domestic.	A
Analyses of Alberta Coals - General.	A
Analyses of Coke as substitute for Anthracite.	A
Battle River, production domestic.	A
Big Valley, " "	A
Bituminous Fields.	A
Bituminous, Chief producing fields.	A
Bituminous, Total Sales and percentage of kind.	A
Bituminous and Lignite production combined.	A
Bow Island, production Domestic.	A
Bruceau, production, Bituminous.	A
British Columbia - sales in, of Alberta Coal	A
" " Coals from S.E. portion, total	A
sales and total output, comparisons with Alberta.	A
Brooks production domestic.	A
Calgary, production Sub-Bituminous.	A
Canmore " domestic.	A
Canmore " Bituminous	A
Carbon " domestic	A
Cardiff " "	A
Clover Bar " "	A
Coals disposed of	A
Coke as substitute for Anthracite	A
Crowsnest Pass, Production Bituminous	A
Domestic Coal Fields.	A
" " Alberta.	A
Drumheller, production Domestic.	A
Edmonton, " "	A
East Kootenay, British Columbia.	A
Gleichen, production Domestic	A
Hanna, " "	A
High River " Sub-Bituminous	A
Jasper Park, " Bituminous	B. C. & D.
Lacombe " Domestic	A
Lethbridge " "	B. C. & D.
Lignites	B. C. D. G. & L.
Locations of all Coal Fields in Alberta	A
and East Kootenay, British Columbia.	
Magrath, production domestic.	A
Manitoba, Sales in,	D.
Map showing locations of Coal Fields in Alberta	
and East Kootenay, British Columbia.	A.
Medicine Hat, production domestic.	A
Milk River " "	A
Mountain Park " bituminous	B. C. & D.
Nomad, " domestic	A
Ontario, Sales in,	E.
Output, Irregularity of,	N
" Alberta Coal	B.
" British Columbia	I.
Peace River, production domestic,	A
Pembina, " "	B. C. & D.
Percentages	B. C. D. E. F. G. H. & L.
Pincher Creek " Sub-Bituminous.	B. C. D
Railways, Sales to	D
Rosedale, production domestic.	A & D
Sales in British Columbia, all Classes	E
" " Saskatchewan " "	D
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

percentages and tonnages. The percentage allotted to

[illegal/illegible]

(B) on the combined production for the four years. 1920, 21, 22, 23. a Drumheller for the year 1923. Rosedale and Wayne are included. Prior to 1923 the two were included Annual Report under Drumheller.

(C) ...ept for the above six fields averages 2,556,383 Tons per year for each of the four years ... the total Lignite Coal output which averages 3,137,715 Tons per year, for the same



Graph showing where the Bituminous Coals were disposed of outside the the province, viz:- B.C. Saskatchewan, Manitoba, Ontario, U.S. and Railways showing sales in percentages and tonnages. The percentage allotted to for Railway consumption outside the province is assumed at 50% of the total.

BITUMINOUS SALES FOR 1923

	% of 1,825,482	% of 3,874,370		% of 1,825,482	% of 3,874,370		% of 70,086	% of 1,825,482	% of 3,874,370				% of 1,553	% of 1,825,482	% of 3,874,370					Total Railway Consumption	Percentage 3,110,121
26,080	53·02	803,784	43·46	22·47	12,040	31·24	0·66	·34	60,006	60·91	3·29	1·71	4,017	5·70	0·21	0·105					62,254	92·80	3·616	1·741	1,330,874	42·79
				6·76			0·54	·275	6,303	6·40	0·34										
									192	0·16			287								
			3·88	5·04	11,738	31·14	0·64	·38	10,852	11·01	0·59		2,300								
													2,387								
													553,639								

Graph showing the sales (tons) of the Coleman production showing the record for each month of the year by percentages and Tonnage, having the average monthly production for the years 1920, 21, 22 and 23. Note These six fields practically cover the entire production.

Scale Horizontal — 1" = 2 Months.
Vertical — 1" = 20 %

Monthly Output = Lignite = 1,045,705 Tons.
Four Years combined = Bituminous = 1,872,563 Tons.

Percentage and Tonnage for Lignite shown by Vertical Figures.
" " " Bituminous " " Horizontal "

No. 1 Crowsnest Pass shown thus
No 2 Mountain Park " "
No 3 Bragseau " "
No 4 Yellowhead " "
No 5 Canmore " "
No 6 Hosmer Field " "
Total

Crowsnest Pass 3,674,387

Total 12,674,174
3. Canmore 246,472
2. Bragseau 1,148,871
4. Yellowhead 1,663,139
1. Mountain Park 4,648,175
6. Hosmer Field 1,887,516

Graph showing the Coleman production for the year by months and percentages and tonnages for the years 1920, 21, 22 and 23.

Jany. Feb. Mar. April May June July Aug. Sept. Oct. Nov.

Total
Lethbridge
Passburg
Taber
Clover Bar
Edmonton
Tofield

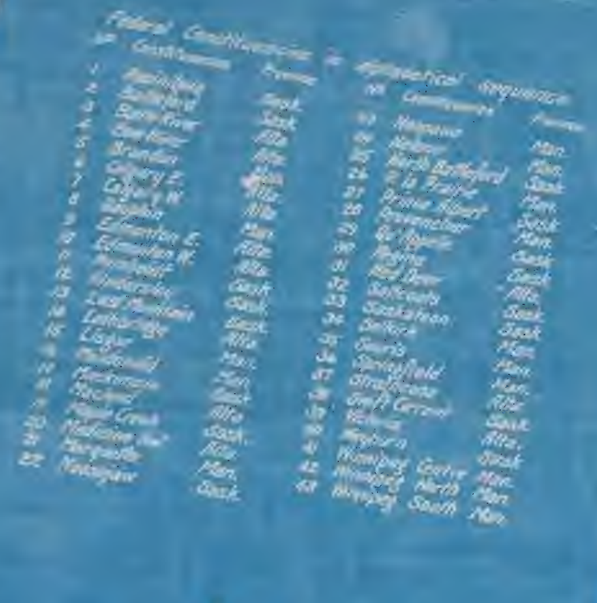
| | | |

SASKATCHEWAN
ONTARIO

WRA-1974-169-2100-001-010

8 L #

1931



CANADIAN PACIFIC RAILWAY COMPAN

COLONIZATION AND DEVELOPMENT BRANCH

J. S. DENNIS
CHIEF COMMISSIONER

CENSUS JUNE 1916

GRAPH

RURAL POPULATION BY FEDERAL CONSTITUENCIES

ALBERTA

SASKATCHEWAN

CANADIAN PACIFIC RAILWAY COMPANY

COLONIZATION AND DEVELOPMENT BRANCH

J.S. DENNIS
CHIEF COMMISSIONER

Calgary 15th March, 1917

CENSUS JUNE 1916

GRAPH

RURAL POPULATION BY FEDERAL CONSTITUENCIES

HUDSON BAY

SASKATCHEWAN

MANITOBA

LEGEND

LAKE WINNIPEG
LAKE MANITOBA
MONTANA
N. DAKOTA
MINNESOTA

IDAHO

MONTANA

DAR-1974-169-2100-001-001

Output of Coals of the Province of Alberta and that part of B.C. embraced in "Graph 51". All of those Coals embraced in the B.C. portion of said Graph are Bituminous, and those embraced in the Alberta portion of the said Graph are practically Bituminous and Anthracite. The Anthracite production is included under the head Bituminous and is equal to about 0·9 % of the combined volume.

In Numbers 10, 11, 27 & 31 it will be noticed that there are three columns in which there is no data, caused by the official reports not containing such data.

Graph. Nº 52.

Calgary

Nº		1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	
1	Total Output of Alberta	1 834 745	1.845.000	2.174.239	3.036.757	1.694.564	3.446.349	4.306.346	3.821.739	3.434.891	4.648.604	4.863.414	6.1
2	Output of that portion of B.C as shown on Graph 51 (practically all Bituminous)	981 938	987.937	1.034.242	1.528.764	495.104	1.412.558	1.491.533	1.069.804	954.881	988.143	617.967	8
3	Nº 1 + Nº 2	2.816.683	2.832.937	3.208.481	4.565.541	2.189.668	4.858.907	5.797.879	4.891.543	4.389.772	5.636.747	5.481.381	6.9
4	Output of that portion of Alberta as shown on Graph 51 practically all Bituminous	1.195.410	1.260.666	1.410.656	2.158.746	706.511	2.062.848	2.419.735	1 789.501	1 581 654	1.824 567	1 518 263	2,0
5	Nº 2 + Nº 4	2.177.348	2.248.603	2.444.898	3.687 530	1.201.615	3.475.406	3.911 268	2 859.305	2 536.535	2.812. 710	2.136.230	2.8
6	Total Bituminous Output of the whole of Alberta	1 195 410	1 260.666	1.410.656	2.158. 746	729.854	2.104 960	2.498 111	1 865.818	1 701.477	2. 592.389	2 175.636	2.9
7	% 4 is of 6	100·00	100·00	100·00	100·00	96·80	97 96	96 86	95·78	92 97	70·27	69·69	
8	% 4 is of 1	65·17	68·33	64·88	71·09	41 69	59 86	58 19	46·83	46·05	39·25	31·23	
9	% 5 is of 3	77·30	79·38	76·20	80 78	54 88	71·52	67·46	56·46	57·79	49·90	38 98	
10	Tonnage of 4 used in Alberta	No	Data	available	1 558 948	576 512	1 824 878	2 122 987	1 562 057	1 413, 076	1 489 000	1 296 157	1
11	" " 4 " outside of Alberta	"	"	"	599,798	130.199	237.970	296.748	227 444	162 378	414 667	222.100	
12	" " 4 made into Coke	112. 857	128. 597	148 104	196.249	61. 591	170. 818	104. 012	44.249	38. 878	67. 105	51 305	
13	" " 4 Coke Product	73 782	75 657	87.812	121 578	35.584	105 664	68 167	29.058	25.826	41 950	31 630	
14	% 13 is of 12	65·37	58·82	59·28	61 96	55·42	61 87	65 53	65 68	61·29	62 52	60 94	
15													
16	% 10 is of 4	——	——	——	72·22	81 58	88·46	87·74	87·30	88·75	77 28	85 58	
17	% 11 is of 4	——	——	——	27·78	18·42	11 54	12 26	12·70	10 25	22·72	14·42	
18	Tonnage of 2 sold in Canada	344.408	225.017	152. 775	204.487	109. 556	258. 406	321 899	156 905	92. 305	84. 548	82 635	
19	" " 2 " outside of Canada	326 378	298. 849	395 796	841 218	135 081	617 951	599 535	456. 108	414 422	433, 388	252. 349	
20	% 18 is of 2	24·89	22·78	14·77	13 33	21 52	18·30	21·58	14· 67	2·69	8 54	15 38	
21	% 19 is of 2	33·24	30·25	38·27	55·04	27·29	45·75	40·23	40·77	45·40	43·86	40·94	
22	Tonnage of 2 used to make Coke	361 614	403 480	409 320	574.661	117 215	444.534	485 270	398 117	384. 710	334.230	217 786	

Output of Coals of the Province of Alberta and that part of B.C. embraced in "Graph 51".

l of those Coals embraced in the B.C. portion of said Graph are Bituminous, and those braced in the Alberta portion of the said Graph are practically Bituminous and Anthracite.

e Anthracite production is included under the head Bituminous and is equal to about 0·9 % the combined volume.

In Numbers 10, 11, 27 & 31 it will be noticed that there are three columns in which ere is no data, caused by the official reports not containing such data.

Calgary 12th July 1920
Wm. Pearce.

	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	Total	Average Annual
wn }	1.834.745	1.845.000	2.174.239	3.036.757	1.694.564	3.446.349	4.306.346	3.821.739	3.434.891	4.648.604	4.863.414	6.140 020	41. 255 268	3.437. 939
ous) }	981.938	987.957	1.034.242	1.528.784	495.104	1.412.558	1.491.533	1.069.804	954 881	988. 145	617. 967	820. 808	12. 383 719	1 031 977
	2. 816 683	2. 832. 957	3 208 481	4. 565. 541	2 189 668	4 858 907	5 797 879	4 891. 543	4. 389. 772	5 636.747	5 481 381	6 960 828	53 638.987	4469. 916
wn }	1. 195. 410	1. 260. 666	1 410 656	2. 138. 746	706. 511	2. 062. 848	2. 419 735	1 789. 501	1 581 654	1. 824. 567	1 518 263	2.007.420	19. 935. 977	1.661 331
s }	2. 177. 348	2. 248 653	2. 444. 898	3. 667 530	1 201. 615	3 475. 406	3. 911 268	2. 859. 305	2. 536. 535	2. 812. 710	2. 136. 230	2. 828. 228	32. 318. 706	2. 693. 309
berta	1. 195. 410	1. 260. 666	1 410. 656	2. 158. 746	729. 854	2. 104. 360	2. 498. 111	1 868. 818	1 701. 477	2. 392. 389	2. 178. 636	2. 917. 587	22. 417. 310	1. 868. 110
	100·00	100·00	100·00	100·00	96·80	97·96	96·86	95·78	92·97	76·27	69·69	68·81	88·93	88·93
	65·17	68·33	64·88	71·09	41·69	59·86	56·19	46·83	46·05	39·25	31·25	32,65	48·32	48·32
	77·30	79·38	76·20	80·78	54·88	71·52	67·46	58·46	57·79	49·90	38·90	40·59	60·26	60·26
	No	Data	available	1. 558. 948	576. 512	1. 824. 878	2. 122. 987	1 562. 057	1 419. 076	1. 409. 900	1. 296 157	1. 376. 882		
ta	"	"	"	559. 798	130. 199	257. 970	296. 748	227. 444	162. 578	414 607	222. 106	630. 538		
	112. 887	128. 397	146. 104	196. 249	61 551	170. 818	104. 012	44. 249	38. 878	67. 105	51. 905	53. 462	1 177 637	98. 138
	73. 782	75. 657	87. 812	121. 578	35. 984	105. 884	68. 167	29. 058	23. 826	41. 950	31 630	32. 661	727. 789	60. 649
	65·37	58·92	59·28	61·96	35·42	61·87	65·53	65·68	61·29	62,52	60·94	61·10	61·80	61·80
	——	——	——	72. 22	81 58	88·46	87·74	87·30	89 75	77 28	85 38	68·39		
	——	——	——	27·78	18·42	11·54	12,26	12,70	10 25	22.72	14 62	31·41		
	244. 408	225. 017	152. 775	204. 467	108. 556	258. 406	321 899	156 905	92. 303	84. 348	82. 653	86. 959	2. 016 918	168 076
da	526. 378	298. 849	395 796	841 218	135. 081	617. 951	595. 935	436. 109	414. 422	433. 588	252. 949	383. 285	5. 135. 561	427 947
	24·89	22·78	14·77	13 38	21 52	18·30	21·58	14 67	5 69	8 54	13 58	18 59	16·29	16·29
	35·24	30·25	38·27	55·04	27·29	49·75	40·23	40·77	43·40	43 86	40·94	46 69	41·47	41·47
	361 614	403.480	400 320	374 661	117 215	444. 534	485 270	398. 117	384 710	394 230	217 786	264. 864	4 235. 601	352. 933

	100·00	100·00	100·00	100·00	96·80	97·96	96·86	95·78	92·97	76·27	69·69	68·81	88·93	88·93
	65·17	68·35	64·88	71·09	41·69	59·86	36·19	46·83	46·05	39·25	31·23	32·65	48·32	48·32
	77·30	79·38	76·20	80·78	54·88	71·52	67·46	58·46	57·79	49·90	38·98	40·59	60·26	60·26
	No	Data	available	1.558.948	576.312	1.824.878	2.122.987	1.562.057	1.419.076	1.409.900	1.296.197	1.376.882		
berta	"	"	"	599.798	130.199	237.970	296.748	227.444	162.578	414.667	222.106	630.538		
	112.887	128.397	148.104	196.249	61.591	170.818	104.012	44.249	38.878	67.105	51.905	53.462	1.177.657	98.138
	73.782	75.657	87.812	121.578	35.984	105.684	68.167	29.058	23.826	41.950	31.630	32.661	727.789	60.649
	65·57	58·92	59·28	61·96	58·42	61·87	65·53	65·68	61·29	62·52	60·94	61·10	61·80	61·80
	—	—	—	72·22	81·58	88·46	87·74	87·30	89·75	77·28	85·38	88·39		
	—	—	—	27·78	18·42	11·54	12·26	12·70	10·25	22·72	14·62	31·41		
	244.408	225.017	152.775	204.487	106.556	258.406	321.899	156.905	92.505	84.348	82.653	86.359	2.016.918	168.076
nada	326.378	298.849	395.796	841.218	135.081	617.951	599.935	436.109	414.422	433.388	252.949	383.285	5.135.361	427.947
	24·89	22·78	14·77	13·33	21·52	18·30	21·58	14·67	9·69	8·54	13·38	10·59	16·29	16·29
	33·24	30·25	38·27	55·04	27·29	43·75	40·23	40·77	43·40	43·86	40·94	46·69	41·47	41·47
e	361.614	403.480	409.320	374.661	117.215	444.534	485.270	398.117	384.710	394.230	217.786	264.664	4.235.601	354.633
	231.326	263.183	274.549	241.580	75.377	296.053	320.370	262.727	269.449	270.805	144.440	185.001	2.834.860	236.238
	63·97	65·22	67·08	64·48	64·30	66·60	66·02	66·00	70·05	68·70	66·33	69·90		
	305.108	338.840	362.361	363.158	111.361	401.737	385.537	291.785	293.275	312.755	175.800	217.662	3.559.379	296.615
	73.782	75.657	87.812	70.434	28.102	98.938	65.167	29.058	23.764	41.950	31.598	32.559	658.821	54.902
	0	0	0	51.144	7·882	6·746	0	0	62	0	32	102		
	474.501	531.877	557.424	570.910	178.806	615.352	589.282	442.366	423.588	461.335	269.691	318.130	5.433.258	452.771
	21·80	23·66	22·80	15·48	14·88	17·71	15·07	15·47	16·70	16·40	12·82	11·23	16·81	16·81
in 2	49.538	60.611	76.557	92.202	39.902	92.292	94.002	75.085	67.157	76.214	64.568	65.677	853.605	71.134
in 4	No	Data	available	39.030	40.810	91.043	85.087	82.059	72.153	82.302	73.694	76.059		
	5·04	6·13	7·38	6·05	8·06	6·53	6·30	7·02	7·03	7·71	10·45	8·01	6·89	6·89
	—	—	—	1·81	5·78	4·41	3·52	4·58	4·56	4·51	4·85	3·79		
oal	570.786	523.866	548.571	1.045.705	341.637	876.757	912.834	593.014	506.928	517.746	335.612	470.244	7.243.700	603.642
	1.032.938	1.096.008	1.172.767	1.715.830	531.986	1.547.041	2.130.703	1.359.133	1.297.846	1.574.439	1.296.157	1.773.370	16.528.218	1.377.352
	58·12	53·02	53·03	68·42	69·00	62·06	61·20	55·44	53·08	52·39	54·32	37·29	58·50	58·50
	86·41	86·94	83·13	79·49	75·30	75·00	88·06	75·96	82·07	86·30	85·40	88·24	82·90	82·90
	1.603.724	1.619.874	1.721.338	2.761.535	873.623	2.423.798	3.043.537	1.952.147	1.804.774	2.092.185	1.631.769	2.243.614	23.771.916	1.980.993
	157.906	231.183	232.328	229.541	73.958	238.606	264.841	199.196	241.900	232.303	130.203	165.508	2.397.473	199.789
	67.077	38.298	45.344	9.770	1.419	56.288	56.701	60.830	27.549	38.502	14.270	19.493	435.549	36.295
	231.688	306.840	320.140	299.975	102.060	337.544	330.008	228.254	265.664	274.253	161.801	198.067	3.056.294	254.691
	68·28	87·84	84·93	95·03	98·12	80·60	82·66	75·82	89·78	85·78	90·18	89·38	84·58	84·58

6	Total Bituminous Output of the whole of Alberta	1 195 410	1 260 666	1 410 656	2 158 740	729 854	2 104 900	2 498 111	1 868 818	1 701 477	2 392 589	2 178 836
7	% 4 is of 6	100·00	100·00	100·00	100·00	96·80	97·96	96·86	95·78	92·97	79·27	89·69
8	% 4 is of 1	65·17	68·33	64·88	71·09	41·69	59·86	56·19	46·83	46·05	39·25	31·23
9	% 5 is of 3	77·30	79·38	76·20	80·78	54·88	71·52	67·46	58·46	57·79	49·90	38·98
10	Tonnage of 4 used in Alberta	No	Data	available	1 558 948	570 312	1 824 878	2 122 987	1 562 957	1 419 070	1 409 900	1 296 157
11	" " 4 " outside of Alberta	-	-	-	559 798	130 199	257 970	296 748	227 444	162 578	414 667	222 100
12	" " 4 made into Coke	112 887	128 397	148 104	196 249	61 591	170 818	104 012	44 249	38 878	67 105	51 905
13	" " 4 Coke Product	73 782	75 657	87 812	121 578	35 584	105 684	68 167	29 058	25 826	41 950	31 698
14	% 13 is of 12	65·37	58·92	59·28	61·96	58·42	61·87	65·53	65·68	61·29	62·52	60·94
15												
16	% 10 is of 4	——	——	——	72·22	81·58	88·46	87·74	87·30	89·75	77·28	85·38
17	% 11 is of 4	——	——	——	27·78	18·42	11·54	12·26	12·70	10·25	22·72	14·62
18	Tonnage of 2 sold in Canada	244 408	225 017	152 775	204 487	106 556	258 406	321 899	156 905	92 505	84 348	82 653
19	" " 2 " outside of Canada	326 378	298 849	395 796	841 218	135 081	617 951	599 935	436 109	414 422	433 388	252 949
20	% 18 is of 2	24·89	22·78	14·77	13·33	21·52	18·30	21·58	14·67	9·69	8·54	13·38
21	% 19 is of 2	33·24	30·25	38·27	55·04	27·29	43·75	40·23	40·77	43·40	43·86	40·94
22	Tonnage of 2 used to make Coke	361 614	403 480	409 320	374 661	117 215	444 534	485 270	398 117	384 710	394 230	217 786
23	" " Coke produced	231 326	263 183	274 549	241 580	75 377	296 053	320 370	262 727	269 449	270 805	144 440
24	% 23 is of 22	63·97	65·22	67·08	64·48	64·30	66·60	66·02	66·00	70·05	68·70	66·33
25	Nº 13 + Nº 23	305 108	338 840	362 361	363 158	111 361	401 737	385 537	291 785	293 275	312 755	175 800
26	Tonnage of 13 sold in Canada	73 782	75 657	87 812	70 434	28 102	98 938	65 167	29 058	23 764	41 950	31 598
27	" " 13 " " U.S.	0	0	0	51 144	7 982	6 746	0	0	62	0	32
28	Nº 12 + Nº 22	474 501	531 877	557 424	570 910	178 806	615 352	589 282	442 366	423 588	461 335	269 691
29	% 28 is of 5	21·80	23·66	22·80	15·48	14·88	17·71	15·07	15·47	16·70	16·40	12·62
30	Tonnage used in firing Boilers in 2	49 538	60 611	76 357	92 202	39 902	92 292	94 002	75 085	67 157	76 214	64 568
31	" " " " " in 4	No	Data	available	39 030	40 810	91 043	85 087	82 039	72 133	82 302	73 694
32	% 30 is of 2	5·04	6·13	7·38	6·03	8·06	6·53	6·30	7·02	7·03	7·71	10·45
33	% 31 is of 4	——	——	——	1·81	5·78	4·41	3·52	4·58	4·56	4·51	4·85
34	Tonnage of 2 disposed of as Coal	570 786	523 866	548 571	1 045 705	341 637	876 757	912 834	593 014	506 928	517 746	335 612
35	" " 4 " " " "	1 032 938	1 096 008	1 172 767	1 715 830	531 986	1 547 041	2 130 703	1 359 133	1 297 846	1 574 439	1 296 157
36	% 34 is of 2	58·12	53·02	53·03	68·42	69·00	62·06	61·20	55·44	53·08	52·39	54·32
37	% 35 is of 4	86·41	86·94	83·13	79·49	75·30	75·00	88·06	75·96	82·07	86·30	85·40
38	Nº 34 + Nº 35	1 603 724	1 619 874	1 721 338	2 761 535	873 623	2 423 798	3 043 537	1 952 147	1 804 774	2 092 185	1 631 769
39	Tonnage of 23 sold in Canada	157 906	231 183	232 328	229 541	73 958	238 606	264 841	199 196	241 900	232 303	130 203
40	" " " " U.S.	67 077	38 298	45 344	9 770	1 419	56 288	56 701	60 830	27 549	38 502	14 270
41	Nº 26 + Nº 39	231 688	306 840	320 140	299 975	102 060	337 544	330 008	228 254	265 664	274 253	161 801
42	% 39 is of 23	68·28	87·84	84·63	95·03	98·12	80·60	82·66	75·82	89·78	85·78	80·18

LAE-1974-169-2100-001-013

This graph is intended to show the production and where utilized or consumed of the three classes of coals in Alberta, Anthracite, Bituminous and Domestic or Lignite.

N°1 shows the output of the various fields as shown in the "Annual Report of the Mines Branch of the Province of Alberta 1918" also the analyses of each field and authority for same

N° 9 shows the domestic production of the province divided into 10 Groups also the various fields in each Group and in which of the six districts into which the Province is divided (see Graph 12) each Field is located.

N°10 shows the output of the six Bituminous fields as per said report, the district in which each field is located and number of same as per map.

N°12 shows the whole Province divided into six districts regardless of class of coal or Output.

N°13 shows by percentages the output of the foregoing six districts.

INDEX

		Graph N°
Analyses	Coal	1
Anthracite	Production of	2&14
	Utilization of	7
Bituminous	Total Output of by fields	3&10
	Utilization of Total Output	7
	Total Output by Districts	15
	Production and Utilization by Districts	22,23,24&25
Coal	Analyses of	1
	Fields (See Ground Map) also	1
	Districts (Division of Province into)	12
	Anthracite see same	
	Bituminous - -	
	Domestic - -	
	Lignite - Domestic	
	Production of by Fields	1,4 & 11
	- - - Districts	8 & 13
	of Total Output	21A
Destination Domestic Coal	Production of by fields	2 & 9
	- - - Districts	16,17,18,19,20
	Total Output of by Districts	21
	Utilization of Total Output	5
	- - Output by Districts	16,17,18,19,20
District	Division of Province into	12
	Total Production by	8 & 13
	Domestic Production by	16,17,18,19,20,21
	- Utilization by	16,17,18,19,20
	Bituminous Production by	15,22,23,24,25
	- Utilization by	22,23,24,25
	Anthracite Production by	14 & 26
	- Utilization by	7
Fields Lignite Production	Coal (See Ground Map)	1
	See Domestic	
	Total by Districts	8
	- - Fields	1,4 & 11
	Anthracite	14&26
	Bituminous by Districts	15, 22 to 25
	- - Fields	3 & 10
	Domestic by Districts	16 to 21
	- - Fields	2 & 9
Utilization	of Total Output	21A
	Anthracite	7

I COAL ANALYSES

N°	Field	Authority	Remarks	M	V	F	A	B.T.U.	Class
1	Mt. Allan	1,840	Mines Br.						
2	Pinkham	1,167							
3	C.P.R. Anthracite	3,933							
4	Crow's Nest Pass	140,000							
5	Lethbridge	81,426							
6	Taber	183,488							
7	Bow Island	1,285							
8	Medicine Hat	3,003							
9	Milk River	8,845							
10	Brooks	9,782							
11	High River	270							
12	Canmore	191,103							
13	Bankhead	131,670							
14	Drumheller	281,108							
15	Morrin	29,393							
16	Carbon	3,881							
17	Three Hills	30,250							
18	Big Valley	34,918							
19	Penhold	18,260							
20	Innisfail	5,761							
21	Red Deer	12,728							
22	Edmonton	371,582							
23	Wetaskiwin	136,529							
24	Leduc-Beaverhill	185,872							
25	Lacombe	109,542							
26	Edmonton	58,587							
27	Stony Plain	29,954							
28	Wabamun	2,658							
29	Entwistle	194,756							
30	Pembina	21,960							
31	Cardiff	286,142							
32	Edmonton	18,390							
33	Athabasca	149,929							

Mines Branch "Ann 1917-1918
Memoir 35 N°44, Geo. Surv. U.S.A.
Various Sources believed by Compiler

Abbreviations
Volatile Combustible
Fixed Carbon
B.T.U. British Thermal Units.

It is probable that because of the system adopted in securing and forwarding samples to where the analyses were made from 10 to 25% of the above moisture content should be added thereto. The higher the said moisture content the greater the percentage that should be added. In the case of the ash content from 2 to 5 on the hundred per cent should be added. When this is done then a correction will be necessary in the case of Volatile and fixed carbon said correction to be proportionate to the amount given in the analysis.

COAL STATISTICS 1918.

CANADIAN PACIFIC RAILWAY COMP

COLONIZATION AND DEVELOPMENT BRANCH

MAP OF

ALBERTA

8

INDICATING LOCATION OF COAL FIELDS

See table Coal Analyses for quality in each Field and Quantity Mined in 1918.

Coal Fields shown thus- (22)

1 Centimeter = 320,000 Feet

1 Centimeter = 320,000 Feet

1 Centimeter = 320,000 Feet

14 15 21 21A

DESTINATION
UTILIZATION
TOTAL OUTPUT
Total Output 6,148

GRAPH Nº 30.

DAL STATISTICS 1918.

PACIFIC RAILWAY COMPANY

ATION AND DEVELOPMENT BRANCH

MAP OF

ALBERTA

GRAPH Nº 30.

AL FIELDS

1 Inch = 320,000 Ft.

2 % OF DOMESTIC TONNAGE
TOTAL OUTPUT FOR YEAR 3,050,641 Tons

3 % OF BITUMINOUS TONNAGE
TOTAL OUTPUT FOR YEAR 2,982,334 Tons

4 % OF TOTAL TONNAGE
TOTAL OUTPUT FOR YEAR 6,148,620 Tons

5

DIVISION OF DOMESTIC OUTPUT

6

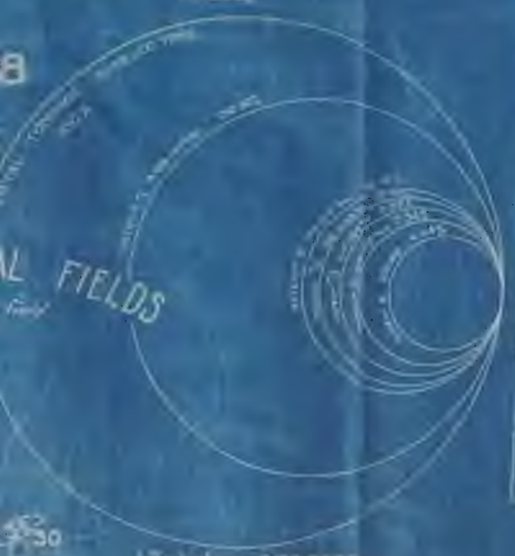
DIVISION OF BITUMINOUS OUTPUT

7

DIVISION OF ANTHRACITE OUTPUT

TOTAL PROVINCIAL OUTPUT 6,148,620 Tons

8



9

No on Plan	Name of Field	Tonnage	Acreage	Area per Cent	Number of Mines
1	Drumheller	681,091	19,200	14	8
2	Lethbridge	651,002	18,400	5	1
3	Cardiff	386,145	8,960	31	4
4	Canmore	344,968	8,960	28	4
5	Taber	109,885	4,000	4	1
6	Pembina	109,429	3,200	33	4
7	Edmonton	86,824	2,560	27	3
8	Big Valley	34,371	1,920	26	3
	Crowsnest	34,318	1,440	18	3
	Blairmore	30,150	1,280	17	3
9	Bienfait	29,988	1,920	15	1
	Pakan	21,660	720	30	1
	Robinson	19,230	640	32	2
	Passburg	11,092	1,280	8	1
	Tofield	10,198	640	19	1
	Horseshoe	10,001	500	20	1
	Bellevue	10,000	1,000	10	1
	Athabasca	8,063	640	13	1
	Bow Island	7,883	1,280	6	1
10	Milk River	2,869	1,280	1	1
	Carbon	2,401	160	15	1
	Brooks	2,182	320	10	1
	Fisher Creek	1,955	1,280	2	1
	Dunmore	1,257	640	2	1
	Big River	320	3,200	11	1

10

No on Plan	Name of Field	Total Tonnage	Acreage	Number of Mines	Number of Seams
1	Crow's Nest Pass	1,401,486	39,200	44	11
2	Brazeau	371,342	12,800	22	3
3	Jasper Park	283,000	3,200	16	4
4	Canmore	274,709	9,280	12	1
5	Rocky Mtn.	255,240	8,320	23	5
6	Yellowhead Pass	129,372	6,400	24	5

11

No on Plan	Name of Field	Total Tonnage	Acreage	Number of Mines
1	Drumheller	1,635,000	14	2
2	Lethbridge	1,251,000	5	1
3	Cardiff	1,010,000	31	4
4	Canmore	1,000,000	28	4
5	Taber	1,000,000	4	1
6	Pembina	1,000,000	33	4
7	Edmonton	1,000,000	27	4
8	Big Valley	1,000,000	26	3
9	Crowsnest	1,000,000	18	3
10	Blairmore	1,000,000	17	3
11	Bienfait	1,000,000	15	1
12	Pakan	1,000,000	30	1
13	Robinson	1,000,000	32	2
14	Passburg	1,000,000	8	1
15	Tofield	1,000,000	19	1
16	Horseshoe	1,000,000	20	1
17	Bellevue	1,000,000	10	1
18	Athabasca	1,000,000	13	1
19	Bow Island	1,000,000	6	1
20	Milk River	1,000,000	1	1
21	Carbon	1,000,000	15	1
22	Brooks	1,000,000	10	1
23	Fisher Creek	1,000,000	2	1
24	Dunmore	1,000,000	2	1
25	Big River	1,000,000	11	1
26	Crow's Nest Pass	1,000,000	44	11
27	Brazeau	1,000,000	22	3
28	Jasper Park	1,000,000	16	4
29	Canmore	1,000,000	12	1
30	Rocky Mtn. Park	1,000,000	23	5
31	Yellowhead Pass	1,000,000	24	5
32	Burrill	1,000,000	9	1

Is not Yellowhead Pass largely if not wholly Domestic (Lignite)?

12 DIVISION OF PROVINCE INTO DISTRICTS.

1. Along the Main Line of Railway from Calgary to the Eastern Limit Boundary of Province.
2. Along the Main Line of C.P.R. from Calgary to Laggan.
3. Along the Main Line of C.P.R. from Laggan to Revelstoke.
4. Along the Main Line of C.P.R. from Revelstoke to Boundary of Province.
5. Along the Crowsnest Pass and Fort Macleod Branch.
6. North of the Main Line of C.P.R. and East of Calgary.

13

1	34,777	62.91	1.81	36.316	2.152	50.53
2	31,100	12.46	14.81	3.00		19.81
3	1,060	2.46	3.00	0.048		5.32
4	14,480	3.50	5.14	4.610		12.70
5		15.13		7.360		7.34
6	2,000		Coke			4.68
	100.00	100.00	24.96	45.334	2.152	100.00%

PRODUCTION & UTILIZATION OF DOMESTIC COAL

BY DISTRICTS

UTILIZED AS PER DIAGRAMS.

14 DISTRICT Nº 1.
Total Output 1,097,740 Tons. 100%

15 DISTRICT Nº 2.
Total Output 910,614 Tons. 100%

16 DISTRICT Nº 3.
Total Output 238,602 Tons. 100%

17 DISTRICT Nº 4.
Total Output 500,368 Tons. 100%

18 DISTRICT Nº 5.
Total Output 2,981,856 Tons. 100%

21A DESTINATION UTILIZATION TOTAL OUTPUT

4	Clover Bar	244,968	8·7860	31	6
5	Lisbon	100,000	6·0700	6	1
6	Pembina	100,000	3·6055	33	4
7	Edmonton	98,784	3·5478	33	4
8	Telfield	98,784	3·5478	33	4
	Camrose	98,784	3·5478	33	4
	Big Valley	98,784	3·5478	33	4
	Three Hills	98,784	3·5478	33	4
9	Hanna	30,150	·9934	17	3
	Namao	29,558	·9730	15	2
	Wabamun	21,660	·7136	20	3
	Medicine Hat	19,250	·6342	32	4
	Trochu	19,028	·6270	8	1
	Lacombe	18,248	·6012	19	3
	Battle River	15,201	·5008	20	3
	Aldersyde	12,203	·4020	21	3
	Bow Island	8,069	·2658	9	1
10	Milk River	7,283	·2400	7	1
	Carbon	6,848	·2256	1	1
	Brooks	5,431	·1789	16	3
	Pincher Creek	2,783	·3223	10	1
	Magrath	3,955	·1303	3	1
	High River	1,627	·0536	2	1
		570	·0188	11	1

3	Jasper Park	283,342	9·5010	25	4
4	Canmore	274,765	9·2110	12	1
5	Mountain Park	255,263	8·5590	23	5
6	Yellowhead Pass	195,972	6·5700	24	5

	Cardiff	1·3292	31	6	
4		1·3274	21	4	
5		1·3274	21	4	
6	Pembina	1·7800	33	4	
	Edmonton	1·7364	29	4	
6		1·0795	21	3	
	Camrose	·5501	26	3	
	Big Valley	·5646	18	3	
	Three Hills	·4904	17	3	
	Hanna	·4800	15	2	
	Namao	·3525	30	6	
	Wabamun	·5131	32	4	
	Medicine Hat	·3095	8	1	
	Trochu	·2968	19	3	
	Lacombe	·2472	20	3	
7	Battle River	·1984	21	3	
	Aldersyde	·1812	9	1	
	Bow Island	·1184	7	1	
	Milk River	·1114	1	1	
	Carbon	·0883	6	1	
	Brooks	·1591	10	1	
	Pincher Creek	·0643	3	1	
	Magrath	·0264	2	1	
	High River	·0093	11	1	
8	Crows Nest Pass	26·0550	4	1	
9	Brazeau	6·0430	22	3	
10	Jasper Park	4·6080	25	4	
11	Canmore	4·4675	12	1	
12	Mountain Park	4·1530	25	5	
13	Yellowhead Pass	3·1875	24	5	
14	Banff	2·1345	13		

Is not Yellowhead Pass largely if not wholly

12 DIVISION OF PROVINCE INTO DISTRICTS.

Districts.

1. Along the Main Line of C.P.Ry. and South of it.
2. Along the Goose Lake Branch of the C.N.Ry.
3. Along the C.N.Ry. and G.T.P. and Branches North of Goose Lake Branch and South of Main Lines.
4. Along the Main Lines of G.T.P. and C.N.Ry.
5. Along the Mountain Park and South Branches of G.T.P.
6. North of the Main Lines of C.N.Ry. and G.T.P.

13

District	No. of Domestic	No. of Bituminous	% of Domestic	% of Bituminous	% of Anthracite	% of Whole
1	36·179	62·91	17·85	50·516	2·134	50·30
2	30·000	14·81	14·81			14·81
3	7·868	12·46	3·88	6·040		9·92
4	16·482	9·50	8·14	4·610		12·75
5		15·13		7·340		7·34
6	9·480		4·68			4·68
	100·009	100·00	49·34	48·506	2·134	100·000

PRODUCTION & UTILIZATION OF DOMESTIC COAL

BY DISTRICTS

UTILIZED AS PER DIAGRAMS.

DISTRICT No 3.
Total Output 238,602 Tons. 100%

UTILIZATION OF BITUMINOUS OUTPUT
Total Output for Year (including Stock) 2,888,

TOTAL PROVINCIAL OUTPUT 6,148,660

DISTRICT No 1

DISTRICT No 2.
310,614 Tons. 100%

DISTRICT No 3.

DISTRICT No 4.

DISTRICT No 5.

DISTRICT No 6.

16 17 18 19 20

PRODUCTION & UTILIZATION OF BITUMINOUS COAL

BY DISTRICTS.

UTILIZED AS PER DIAGRAMS.

DISTRICT NO. 1
Total Output 1,876,195 Tons 100%

DISTRICT No 3.
Total Output 371,562 Tons. 100%

DISTRICT No 4.
Total Output 283,342 Tons. 100%

DISTRICT No 5.
Total Output 481,235 Tons. 100%

22 23 24 25

PRODUCTION AND UTILIZATION OF ANTHRACITE COAL

DISTRICT No 1.
Total Output 131,225 Tons 100%

26

8

AL FIELDS

1 Da Inch = 320,000 F

30 29 28 27 26 21 20 19 18 17 16 15 14 10

21A DESTINATION UTILIZATION TOTAL OUTPUT

Analyses	Coal	1
Anthracite	Production of	26&14
	Utilization of	7
Bituminous	Total Output of by fields	3&10
	Utilization of Total Output	7
	Total Output by Districts	15
	Production and Utilization by Districts	22,23,24&25
Coal	Analyses of	1
	Fields (See Ground Map) also	1
	Districts (Division of Province into)	12
	Anthracite see same	
	Bituminous - -	
	Domestic - -	
	Lignite Domestic	
	Production of by Fields	1,4 & 11
	- - - Districts	8&13
Destination	of Total Output	21A
Domestic Coal	Production of by fields	2&9
	- - - Districts	16,17,18,19&20
	Total Output of by Districts	21
	Utilization of Total Output	5
	- - Output by Districts	16,17,18,19&20
Districts	Division of Province into	12
	Total Production by	8&13
	Domestic Production by	16,17,18,19,20,21
	- Utilization by	16,17,18,19,20
	Bituminous Production by	[illegible]
	- Utilization by	22,23,24,25
	Anthracite Production by	14&26
	- Utilization by	[illegible]
Fields	Coal (See Ground Map)	1
Lignite	See Domestic	
Production	Total by Districts	8
	- - Fields	1,4 & 11
	Anthracite	14&26
	Bituminous by Districts	15, 22 to 25
	- - Fields	3&10
	Domestic by Districts	16 to 21
	- - Fields	2&9
Utilization	of Total Output	21A
	- Anthracite	7
	- Bituminous	6
	- - by Districts	22 to 25
	- Domestic	5
	- - by Districts	16 to 20.

NOTE.

A study of Nos 16, 17, 18, 19, and 20 illustrates the distribution for consumption, of the domestic or lignite coals from each of the six districts

Of Nos 22 23 24 25 shows the same for Bituminous
No 5 shows that for the total output of Domestic
No 6 for Bituminous
No 21A for the total output of all classes combined

It is evident that Alberta coals are far from taking their desired position in the fuel consumption of the Three Prairie Provinces

It is urged that the Coking of the Bituminous and the dehydration, and briquetting of the lignites would aid very greatly in the extension of the consumption of Alberta coals, the coke to supplant American anthracite, the briquettes being practically without moisture, saving in transportation the high moisture content of lignites thus aiding storage without waste and also enabling the mines to be operated thruout the entire year, probably also greatly reducing the cost of production and transportation.

The exportation to U.S. points would also probably be vastly increased, when furnished in the shape of domestic coke and high grade briquettes

| | | |

LJAA-197H-169-2100-CQ1-017

...ENTS FOR 1913. Graph 30 Part 2

...ubsidy
...Mines, ...

...Statistics of Mines and Quarries in Operation
...Mines Branch,
...Department of Mines,
Ottawa.

...It will be noticed that this Report gives the total output as 5,972,816 tons for the calendar year.

The Mines Branch Report for the province of Alberta gives an output of 6,148,620 tons. An increase of 175,804 tons or 2.94% of 5,972,816.

Division of Alberta into districts. Boundaries of each:

1. along the Main Line of C.P. Ry. from ... to ...
2. along the Goose Lake Branch of the C.P.R.
3. along the C.N.R. and G.T.P. and Branches North of Goose Lake Branch and South of Main Lines of said Railways
4. along the Main Lines of G.T.P. and C.N. Ry.
5. along the Mountain Park and South Branches of G.T.P.
6. North of the Main Lines of C.N.Ry. and G.T.P.

Name of Company & Mine Address	District.	Order of Production	Total Production	Percentage Total
Western Canadian Collieries				
Bellevue	1	1	434,332	7.27
Brazeau Collieries Ltd., Nordegg	3	2	356,216	5.95
Western Canadian Collieries, Greenhill	1	3	333,128	5.57
McGillivray Ck. Coal & Coke Co., Coleman	1	4	277,400	4.66
Canmore Coal Co. Ltd., Canmore	1	5	274,745	4.59
C.P.R. Galt No. 6, Lethbridge	1	6	254,980	4.29
Hillcrest Collieries Ltd., Hillcrest	1	7	253,420	4.26
International Coal & Coke Co. Ltd. Coleman	1	8	252,409	4.24
Lethbridge Colliery, Coalhurst (Kipp)	1	9	250,428	4.20
Blue Diamond Coal Co., Ltd., Blue Mines	4	10	188,739	3.15
Mountain Park Coal Co., Ltd., Mountain Park	5	11	137,042	2.30
Cadomin Coal Co., Ltd., Coalspur	5	12	120,589	2.01
Bankhead Mine, C.P.R.	1	13	115,401	1.93
Cardiff Collieries Ltd., Cardiff	6	14	110,317	1.84
Rosedale Coal & Clay Products Co., Rosedale	2	15	106,443	1.79
C.P.R. Galt No. 8, Lethbridge	1	16	106,363	1.78
Chinook Coal Co., Ltd., Commerce	1	17	105,854	1.76
Canada Creek Coal Co., Ltd., Edson	1	18	103,422	1.73
M.A. Col. Ltd. Pembina Colliery, Evansburgh	4	19	101,749	1.70
Home Deer Coal Mg. Co. Ltd., Wayne	2	20	96,976	1.62
Humberstone Coal Co., Beverly	4	21	94,942	1.58
Western Commercial Co. Ltd., Wayne	2	22	92,784	1.54
Alberta Block Coal Co. Ltd., Granum	5	23	87,716	1.47
Pacific Pass Colliery [illegible]	6	24	81,906	1.37
Midland Collieries Ltd., Drumheller	4	25	77,920	1.30
Jasper Mine, Jasper Park Collieries	4	26	71,682	1.20
Great West Coal Co. Ltd., (The) Clover Bar	4	27	71,000	1.19
Old Man River Coal Co., Ltd., Lethbridge	6	28	67,090	1.12
Twin City Coal Co., Ltd., Edmonton	4	29	56,015	.93
Banner Coal Co., Ltd., Cardiff	6	30	55,640	.93
Newcastle Co. Ltd., Drumheller	3	31	54,057	.90
Western Gem Mg. Co., Ltd., Drumheller	4	32	53,600	.89
Drumheller Coal Co. (The) Drumheller	4	33	48,089	.80
Great West Coal Co. Ltd. Capital (Lower Mine)	4	34	46,367	.77
Atlas Coal Mining Co. Ltd., Drumheller	4	35	45,500	.76
Rocky Mountain Collieries Ltd., Taber	1	36	44,000	.74
Monarch Colliery, Drumheller (Lower)	4	37	43,841	.73
Yellowhead Coal Co., Ltd., Edmonton	3	38	43,000	.72
Trust & Guarantee Co. Ltd. Pierce River Mine	1	39	39,000	.65
Premier Coal Co., Ltd., Drumheller	4	40	34,627	.58
Toffield Coal Co. Ltd., Toffield	5	41	33,900	.57
Dodell Coal Co. Ltd., (The) Toffield	5	42	31,762	.53
Big Valley Collieries, Big Valley	4	43	30,604	.50
Federal Coals Ltd., Lethbridge	1	45	20,614	.34
Bush Mine Coal Co. Beverly	4	46	17,200	.29
Scranton Coal Co. Ltd., Drumheller	4	47	16,641	.28
Regal Collieries Ltd., Taber	1	48	14,500	.24
Miette Mine, Jasper Park Collieries	4	49	11,644	.19
Rock Springs Coal & Brick Co. Ltd., Wilcan	1	50	10,000	.16
McPeak P.J. Ltd., Edmonton	4	51	9,077	.15
Ellis Coal Co., Ltd., Three Lills	6	52	8,500	.14
[illegible] Coal Co. Ltd., (The) Edmonton	4	53	18,989	.31
Round Hill Collieries Ltd., Round Hill	4	54	18,689	.31
Saunders Creek Dom. & Steam Coal Co., Edmonton	4	55	16,509	.27
Lethbridge Diamond Collieries Ltd., [illegible]	6	56	15,451	.25
Clover Bar Coal Co. Ltd., Clover Bar	4	57	12,997	.21
Hamilton Coal Co. Ltd., Wayne	2	58	12,972	.21
Spicer Coal Co. Ltd., (The) Dinant	6	59	10,270	.17
Redcliff Brick & Coal Co. [illegible]	1	60	10,000	.16

Bush Mine Coal Co., Nordegg
Scranton Coal Co. Ltd., Drumheller
Regal Collieries Ltd., Taber
Miette Mine, Jasper Park Collieries
Rock Springs Coal & Brick Co. Ltd., Taber
McLean P.D. Ltd., Edmonton
Ellis Coal Co., Ltd., Three Hills
Lewis Coal Co. Ltd., (The) Edmonton
Mound Hill Collieries Ltd., Mound Hill
Saunders Creek Dom. & Steam Coal Co. Saunders
Sturgeon Consolidated Collieries Ltd., Namao
Clover Bar Coal Co. Ltd., Clover Bar
Hamilton Coal Co. Ltd., Wayne
Spicer Coal Co. Ltd., (The)
Medcliff Brick & Coal Co.
Edmonton Collieries Ltd., Clover Bar
City of Lethbridge Coal Mine,
Keith & Fulton Coal Co.,
Regal Collieries, Dodds (Alta.)
Total (67)
all other Operators (200)
Total Alberta.

Total Gross tons for various Districts

30%	30%	30%	30%	30%	30%	30% omitted as not counted
47.40%	12.78%	7.81%	12.80%	7.48%	4.80%	6.40%

Graph showing by percentages the production of the Various Districts shown numbered as above.
Total. 5,972,816 Tons.

Percentages x 3.6 = Degrees

Graph showing by Degrees which represent the percentages
of the Output of the various Mines listed above and numbered
in order of Production.

Total: 5, 972, 816 Tons

Degrees ÷ 3.6 = Percentages

COAL MINING PROPERTIES AND TOPOGRAPHY

ALONG THE

MAIN LINE OF C. P. R. AND CROWS NEST BRANCH

AND BETWEEN SAME

IN

WESTERN ALBERTA AND EASTERN BRITISH COLUMBIA

ALSO

SHOWING CONDITIONS UNDER WHICH THE COAL GRANTS IN ALBERTA HAVE BEEN MADE

SCALE: 1 INCH = 3 MILES. CALGARY. MAY 22nd 1920.

GRAPH No 51.

Compiled under direction of Wm Pearce.

LEGEND

Coal Sales Subject to Royalty

Coal Sales not Subject to Royalty

Coal Leases on Dominion Lands

Coal Leases on School Lands

NOTE

Because of the system adopted in securing and forwarding samples of Coal to the point of analyses it is probable that in handling the said Coals commercially, the percentage of the ash content should have from 2% to 3% added. The moisture should be increased by from 10% to 25% of the amount appearing in the Schedule. The higher the percentage of the moisture content the larger should be the percentage added.

When the suggested corrections for moisture and ash are made, it will then be necessary to amend the amounts given for Volatile and Fixed Carbon, which of course will be lowered by the amounts combined added to Moisture and Ash. The combined amounts so added to Moisture and Ash to be divided between the Volatile and Fixed Carbon proportionately to the percentages of the Volatile and Fixed Carbon.

ANALYSES OF COALS

No	Location of Coal	Name of Mine	M	A	V	C	BTU	Coking or Non-Coking	S

CALGARY

BARRIER L K

RIVER

I II III IV V VI VII

C.P.R.
Mountains
Rocky
Coal Creek
Livingstone
Entry
Crowsnest
Dominion Government Block
Canadian Collieries (Dunsmuir) Limited
Crow's Nest Pass Coal Co Ltd
Canadian Pacific Railway Co
Authority
Coal Fields of Man, Sask, Alta, & B.C. by D.B Dowling Memoir 53. Geol Surv 1914.
Annual Report of Minister of Mines (1908) for B. Columbia
Private Report.
AUTHORITY
Name of Mine
Owner or Claimant
Analyses of Coals (Carbon)

COAL MINING PROPERTIES AND TOPOGRAPHY

ALONG THE

MAIN LINE OF C. P. R. AND CROWS NEST BRANCH

AND BETWEEN SAME

IN

WESTERN ALBERTA AND EASTERN BRITISH COLUMBIA

ALSO

SHOWING CONDITIONS UNDER WHICH THE COAL GRANTS IN ALBERTA HAVE BEEN MADE

SCALE: 1 INCH = 3 MILES. CALGARY, MAY 22nd 1920.

GRAPH No 51.

Compiled under direction of Wm Pearce.

LEGEND

- Coal Sales Subject to Royalty
- Coal Sales not Subject to Royalty
- Coal Leases on Dominion Lands
- Coal Leases on School Lands

NOTE

Because of the system adopted in securing and forwarding samples of Coal to the point of analyses it is probable that in handling the said Coals commercially, the percentage of the ash content should have from 2% to 3% added. The moisture should be increased by from 10% to 25% of the amount appearing in the Schedule. The higher the percentage of the moisture content the larger should be the percentage added.

When the suggested corrections for moisture and ash are made, it will then be necessary to amend the amounts given for Volatile and Fixed Carbon, which of course will be lowered by the amounts combined added to Moisture and Ash. The combined amounts so added to Moisture and Ash to be divided between the Volatile and Fixed Carbon proportionately to the percentages of the Volatile and Fixed Carbon.

ANALYSES OF COALS

No.	Location of Coal Analysed	Thickness of Seam	Name of Mine. Owner or Claimant.	M %	A %	V %	F %	B.T.U.	Coking or Non-Coking	Authority. Date Name of Analyst.
1	Sec 19 T 26 R 11 W 5		Bankhead Colliery C. P. R.	0·8	16·1	14·7	68·3	13,190	NC	E
				1·1	11·5	13·3	74·1	13,660		
				0·7	11·8	8·8	78·6	13,780		
				0·8	10·6	8·8	77·8	13,660		
				0·8	9·7	8·8	80·5	13,770		
				1·1	13·4	8·1	76·4	13,480		
2	Seam No 5	5·10	Anthracite	1·24	3·43	3·15	87·18			*
	"	6·7			3·65	2·60	89·75			
3	Sec 29 T 20 R 10 W 5		No 2 Mine Canmore Coal Co Ltd	1·1	7·1	8·4	73·1			E
				0·8	5·9	10·2	83·1			
				0·8	5·8	10·2	83·2			
				0·8	5·8	10·2	83·2	14,870	NC	
				1·8	8·2	8·8	81·1	14,580		
			No 1 Mine	1·8	10·1	11·8	76·3	13,890		
	Sec 18 & 19 T 23 R 10 W 5		Georgetown Collieries Ltd	0·6	8·8	18·8	71·8	13,890	NC	
			" " "	2·9	12·3	13·1	71·7	12,920	NC	
4		12·-0	Marsh Mine (opposite Gap Siding)	0·7	8·49	11·03	79·78			X
5		10·-0	" " (Lower Seam)	1·02	5·58	7·24	86·16			
6		15·-6	Gully near Marsh Mine	3·6	5·5	13·1	77·9			
7		4·-0	" " "	2·9	3·8	12·4	81·2			
8		4·-6	" " "	1·0	8·5	12·5	78·0			
9		4·-0	" " "	2·3	7·9	11·5	78·0			
10										
11										
12	Sec 34 T 8-2 R 1 W 5	3·-0	Cascamp M'f'n	1·04	2·09	14·26				*
	Near Thorne Mine	1·-6	Moose M'f'n (Top Seam)	1·86	2·84	15·33	80·97			
	" " "	7·-6	Head of Bragg Creek	1·17	15·52	13·54	69·77			
	Sec 6 T 23 R 6 W 5	6·-10	Moose M'f'n	2·74	3·12	18·02	76·12			
12A		4·-6	Coal Creek, Bow River Outcrop of Seam	0·93	15·51	33·55	49·99	13,875		*
12B			Bow River Mine (South side)	2·41	7·0	28·38	62·62			
13										
14	North end of Area		Nr Tombstone M'f'n Kananaskis River	0·87	18·75	15·66	64·72			X
15	Sheep Creek	8·-8	Burn's Location	0·74	13·04	11·51	74·71			X
16	Sec 19 & 30 T 19 R 5 W 5		On Sheep Creek	0·53	19·33	14·99	64·55			X
17	" 36 " "	5·-0	" "	0·68	6·21	18·98	73·12			
18	Sec 20 T 19 R 4 W 5	5·-0	" "	2·16	6·77	24·65	66·42			X
19	" 30 " "	7·-0	" "	2·5	4·98	28·88	65·64			
20	" 4 T 20 R 3 W 5	4·-0	Sheep Creek Coal Mine	3·08	3·05	39·37	54·50			
21	Sec 11 T 19 R 7 W 5	5·-6	On Sheep Creek (near Burn's Location)	1·3	10·43	11·14	77·13			X
22				0·34	10·29	13·19	76·0			
23	On Aldridge Creek		No 1 Seam C. P. R. Synd.	1·1	6·6	23·5	68·8		C	W
24	" " "		" 2 " " "	1·0	5·2	23·9	65·9		C	
25	" " "		" 3 " " "	0·9	12·3	23·4	64·4		C	
26	" " "		" 5 " " "	0·9	12·8	18·9	67·4		C	
27	Elk River Headquarters	10·-0	10·-0 Seam J. R. Wilson Claim	0·6	7·5	17·9	73·7		C	
28	Seam A		Imperial Coal Co	1·4	8·1	19·1	70·1		C	W
	B		" " "	0·9	8·0	21·6	69·5		C	
	C		" " "	2·8	5·0	22·8	69·4		C	
	E		" " "	4·4	10·8	23·2	61·5		NC	
	F		" " "	1·4	11·3	23·1	64·2		C	
	G		" " "	1·3	11·2	24·7	62·8		C	
29										
30										
31	N. Fork of Oldman River		Great West Coal Co	0·87	7·98	27·91	73·11			F
32										
33										
34				1·2	11·4	24·5	62·9			F
35				1·2	11·1	26·0	61·4			F
36										
37										
38	On Alexander Creek		Tritas Woods Co	0·8	15·5	17·0	66·7		C	
39	Sec 8 Tp. R4. W5		Dawson Colliery International C. & C. Co Ltd.	2·0	19·4	24·6	54·0	11,490		E
				1·4	20·0	23·3	54·4	11,450		
				1·2	11·8	23·4	63·6	12,580		
				2·4	9·1	22·5	67·0	13,320		
	Sec 17 " "		Carbondale Mine McGillivray Creek C. & C. Co Ltd.	2·8	7·4	24·0	66·3	12,040		
	" 8 & 11 " "		Greenhill Colliery West Canadian Collieries Ltd.	1·2	19·8	23·1	56·1	11,730		
				2·3	11·8	24·9	61·1	13,140		
40	Sec 6 T 8 R 3 W 5		Lille	1·7	18·1	24·5	57·9	12,260		E
				1·8	13·5	24·9	59·1	12,430		
	Sec 15 T 7 R 3 W 5		Leitch Collieries Ltd.	1·9	17·6	26·3	54·0	12,090		
				1·1	7·9	28·4	62·6	12,090		
				1·1	20·3	23·8	54·8	11,870		
41	Sec 36 T 7 R 4 W 5		Franco Canadian Collieries Ltd.	1·2	16·5	26·0	56·3	12,380	C	E
				1·3	10·7	28·4	59·6	13,240	C	
				2·8	17·8	28·2	51·2	11,910	NC	
42	Sec 18 T 7 R 3 W 5		Hillcrest Collieries Ltd.	3·0	14·8	28·3	53·7	12,080		A
				1·0	13·4	29·7	55·9	13,700		
				1·9	14·0	29·2	55·9	12,820	C	
	Sec 28 T 7 R 3 W 5		Bellevue Colliery W. Canadian Collieries Ltd.	0·8	15·3	27·4	56·4	12,380		
				1·2	13·9	29·4	55·5	12,440		
				1·3	17·0	29·8	60·9	12,070		
				2·7	18·8	23·9	53·0	11,790		
43										
44	Near Lundbreck	5·-0		3·27	9·20	38·53	47·78	12,286		X
	" "	5·-0		2·56	12·08	46·86	38·50	10,745		
45										
46										
47										
48										

Average of 7 Analyses made by J. H. Ling 19/1/20. Private Report

SCHEDULE CONTINUED

WRR-1974-169-2100-001-016

COAL MINING PROPERTIES AND TOPOGRAPHY

ALONG THE

MAIN LINE OF C. P. R. AND CROWS NEST BRANCH

AND BETWEEN SAME

IN

WESTERN ALBERTA AND EASTERN BRITISH COLUMBIA

ALSO

CONDITIONS UNDER WHICH THE COAL GRANTS IN ALBERTA HAVE BEEN MADE

SCALE: 1 INCH = 3 MILES. CALGARY. MAY 22nd 1920.

GRAPH No 51.

Compiled under direction of W. [illegible]

LEGEND.

Coal Sales Subject to Royalty

Coal Sales not Subject to Royalty

Coal Leases on Dominion Lands

Coal Leases on School Lands

NOTE

[illegible] in securing and forwarding samples of Coal to the point of analyses [illegible] said Coals commercially, the percentage of the ash content should have [illegible] The moisture should be increased by from 10 % to 25 % of the amount appearing [illegible] The higher the percentage of the moisture content the larger should be the [illegible] corrections for moisture and ash are made, it will then be necessary to [illegible] or Volatile and Fixed Carbon, which of course will be lowered by the [illegible] Moisture and Ash. The combined amounts so added to Moisture and

CALGARY

Tilleoville

Black Diam

Tongueflag

Irrig. Ct.

River

SENTINEL MT.

Mountains

Mt. Pierce

Oyster Ck.

Coal Fields of Man., Sask., Alta., & B.C. by D.B. Dowling Memoir 53, Geol. Surv. Dept. 1914
Annual Report of Minister of Mines (1908) for B. Columbia
Private Report.

AUTHORITY

COAL MINING PROPERTIES AND TOPOGRAPHY

ALONG THE

MAIN LINE OF C P R AND CROWS NEST BRANCH

AND BETWEEN SAME

IN

WESTERN ALBERTA AND EASTERN BRITISH COLUMBIA

SHOWING

SUBDIVISIONS UNDER WHICH THE COAL LANDS IN ALBERTA HAVE BEEN MADE

SCALE 1 INCH = 3 MILES. CALGARY, MAY 22nd 1912.

GRAPH No 51.

Compiled under direction of W. Pearce.

LEGEND

Coal Sales Subject to Royalty

Coal Sales not Subject to Royalty

Coal Leases on Dominion Lands

Coal Leases on School Lands

NOTE

Because of the system adopted in securing and forwarding samples of Coal to the point of analyses it is probable that in handling the said Coals commercially, the percentage of the ash content should have from 2% to 5% added. The moisture should be increased by from 10% to 25% of the amount appearing in the Schedule. The higher the percentage of the moisture content the larger should be the percentage added.

When the suggested corrections for moisture and ash are made, it will then be necessary to amend the amounts given for Volatile and Fixed Carbon, which of course will be lowered by the amounts combined added to Moisture and Ash. The combined amounts so added to Moisture and Ash to be divided between the Volatile and Fixed Carbon proportionately to the percentages of the Volatile and Fixed Carbon.

ANALYSES OF COALS

No.	Location & Seam	Thickness of Seam	Name of Mine or Quarry & Description	M	A	V	C	B.T.U.	Remarks	Sulphur
			Bankhead Colliery C P R							
	Seam No 5	5-10	Anthracite							
	A	8-7	"							
	Sec 29 Twp R 10 W 5		No 2 Mine Canmore Coal Co. Ltd							
		0	Marsh Mine (opposite Gap Siding)							
			" " (Lower Seam)							
		17-18	Gully near Marsh Mine							
			Moose Mtn (top Seam)							
			Head of Bragg Creek							
	Twp 8 Twp 22 W 5	6-10	Moose Mtn							
		6-6	Coal Creek Bow River Outcrop of Seam							
			Bow River Mine " (South side)							
			Mr Tomlinson Mtn Kananaskis River	0-87						
		8-8	Burn's Location	0-74	13-04					
			On Sheep Creek	0-83						
	Twp R 5 W 5	4-5	Grassy Creek Coal Mine							
	Sec 11 T 19 R 7 W 5	2-6	Mouth of Grassy Creek (near Burns Location)							
			N° 1 Seam C.P.R. Synd							
			" 2							
			" 3							
			Imperial Coal Co							
			Great West Coal Co							
			Twin Woods Co	0-8	15-5					
			Canmore Colliery International C & C Co Ltd	2-0	19-4					
			" " "	1-4	20-8					
			" " "	1-9	18-9					
			" " "	4-9	18-5					
			Carbondale Mine M'Gillivray Coal & C Co Ltd	2-6	17-0					
			Cascade Colliery West Canadian Collieries Ltd	1-2	19-3					
			" " "							
				1-5	15-5					
			Leitch Collieries Ltd.	1-9	17-6					
			" " "	1-1	17-9					
			" " "	1-1	20-3					
	Sec 36 Tp R 4 W 5		France Canadian Collieries Ltd.	Pit	16-5					
			" " "	1-3	10-7					
			" " "	2-8	17-8					
			Hillcrest Collieries Ltd.	3-0	14-8					
			" " "	1-0	13-4					
			" " "	1-30	14-0					
			Bellevue Colliery W. Canadian Collieries Ltd.	0-8						
				1-3						
				1-5						
				2-7						

Average of 7 Analyses made by J. McLeay 1911/12 Private Report

Report of Bulletin No 10 of Can Mining Inst. 1910

Dec 12, T 21 R 6 W 5 Ford Coal Co

SCHEDULE CONTINUED

51

USAEC-1974-169-2100-001-015

BY-PRODUCT COKE OVENS.

Koppers Ovens									Semet-Solvay Ovens							Otto Hoffman Ovens							
Type	Name of Company	Location	Name of Coal Mine	Coal Washing Process	No. of Ovens	Size of Ovens	Tons per Oven	Hours for Coking	Percentage Coke Produced	B.T.U.'s of Gas	Remarks	No. of Ovens	Size of Ovens	Tons per Oven	Hours for Coking	Percentage Coke Produced	B.T.U.'s of Gas	Remarks	No. of Ovens	Size of Ovens	Tons per Oven	Hours for Coking	Percentage Coke Produced	B.T.U.'s of Gas
448	Koppers	Kearny	Koppers Coal Co.					17	78	525														
"	"	Buffalo	Koppers Coal Co.																					
"	"	Chicago	Koppers Coal Co.																					
"	"	Detroit	Koppers Coal Co.																					
"	"	Milwaukee	Koppers Coal Co.																					
"	"	Rochester	Koppers Coal Co.																					
448	Canada	Toronto	Koppers Coal Co.				13	18	67.6	687														
"	"	Ottawa	Koppers Coal Co.																					
"	"	Montreal	Koppers Coal Co.																					
"	"	Kearny	Koppers Coal Co.																					
"	"	Buffalo	Koppers Coal Co.																					
"	"	Chicago	Koppers Coal Co.																					
"	"	Detroit	Koppers Coal Co.																					
"	"	Milwaukee	Koppers Coal Co.																					
"	"	Rochester	Koppers Coal Co.																					
"	"	Toronto	Koppers Coal Co.																					
"	"	Ottawa	Koppers Coal Co.																					
"	"	Montreal	Koppers Coal Co.																					
"	"	Kearny	Koppers Coal Co.					18	76	525														
"	"	Buffalo	Koppers Coal Co.																					
"	"	Chicago	Koppers Coal Co.																					
"	"	Detroit	Koppers Coal Co.																					
448	"	Toledo	Koppers Coal Co.				8	24	62	450														
"	"	Toledo	Koppers Coal Co.				13	17	65	525														
"	Kentucky	Ashland	Koppers Coal Co.																					
449	Maryland	Cumberland	Koppers Coal Co.				32	0	70															
"	Michigan	Detroit	Koppers Coal Co.																					
"	"	Detroit	Koppers Coal Co.																					
"	"	Detroit	Koppers Coal Co.																					
"	"	Detroit	Koppers Coal Co.																					
"	Massachusetts	Boston	Koppers Coal Co.																					
"	"

BY-PRODUCT COKE OVENS.

Owing to investments and location of Beehive oven plants they will only [illegible] whereas retorted product can be sold By-Product. When By-Product [illegible] gas is required for [illegible] gas can readily be diverted. As regards ovens [illegible] operating with considerable economy.

[illegible] 1909-1918. 44·2%. Decrease in Beehive 8·1%. Increase in By-Product 19·9%.

[illegible] of higher grade of coke is required than for Domestic. In other words Coals may [illegible] which would not make metallurgical

| | | |

CANADA

For Gas portion of coke in ... Balance average 18.202. cu ft. of gas per ton of Coke.

CANADA

USA-1974-169-2100-001-012

Appendix "A"

Statement Calculating Value of Calgary Natural Gas as compared with By-product Oven Gas.

From five tests made by the Officials of the Calgary Power Plant to determine the relative values of coal and natural gas as supplied in Calgary, it would appear that 16,780 cu.ft. of Gas is equal to one ton of coal and that was arrived at after rejecting two tests which gave results very much below the average. The coals used by the Power Plant were high grade lignites and for ordinary steam purposes, probably about as good as Bituminous, provided the boilers are adapted to burn it.

A very reliable party claims from thorough tests that one ton of good Bituminous Coal from Crow's Nest Pass utilized under the best conditions is equivalent to 25,600 cu.ft. of Calgary Natural Gas.

The Mean of the two is 21,190. Have adopted 21,200 cu.ft. Calgary Natural Gas as equivalent to one ton of mine run of good Bituminous Coal in Crow's Nest Pass and think in ordinary practice it will be found such will closely be approximate.

The following calculations are based on coking coals from the said field.

Average No. of tons of coke per oven per annum as per schedule is 4,491 say 4,500.

Average No. of cu.ft. of gas per ton of coke 15,202 or 10,641 per ton of coal. To be conservative assume 10,000 cu.ft. of gas per ton of coal.

Average No. of hours coking 17.7
% of Coke 70.94
Average Charge 12.56 tons, after rejecting Central Indiana Gas Co. and Seattle Lighting Co.

Will assume 18 hours for coking, 70% coke and 18 tons oven charge. On that basis each oven would turn out 4,800 tons Coke per annum; the average as per schedule is 4,491 say 4,500. 70% of 15,202 equals 10,000 equals 10 cu.ft. of Gas per ton of coal as per schedule. For purposes of this will adopt 10,000 cu.ft.

By-product oven gas at 600 B.T.U. and Natural Gas at 960 B.T.U.'s, then By-product oven gas is worth 62.5% of Natural Gas.

21,100 cu.ft. of gas at 960 B.T.U.'s equals 20,250 By-product Gas at 600 B.T.U.'s equals one ton good steam coal.

In good practice in By-product ovens not more than [illegible] of the gas produced is required to heat the ovens. Where gas is of good value they can be heated by means of producer gas at one half the cost. So it follows that after providing for heating the ovens, 80% of the value of the gas is available to be credited as receipts therefrom.

If one ton coal produces 10,000 cu.ft. Gas, 80% of that is 8,000. 8,000 is 23.6% of 33,900. In other words 23.6% of the cost of the coal is met with in the gas obtained in coking it.

Placing coal in Crow's Nest Pass at $3.75 per ton for mine run. Freight $2.00. In addition the cost of handling coal in a power house above that of gas to perform the same duty is [illegible] per ton. $3.75 $2.00 $.916 equals $6.666; 23.6% of the

In good practice in by-product ovens not more than the gas produced is required to heat the ovens. Where gas is of good value they can be heated by means of producer gas for one half the cost. So it follows that after providing for heating the ovens, 80% of the value of the gas is available to be credited as receipts therefrom.

If one ton coal produces 10,000 cu.ft. gas, 80% of that is 8,000. 8,000 is 23.6% of 33,900. In other words 23.6% of the cost of the coal is met with in the gas obtained in coking it.

Placing coal in Crow's Nest Pass at $3.75 per ton for mine run. Freight $2.00. In addition the cost of handling coal in a power house above that of coke to perform the same duty is $.916 per ton. $3.75 $2.00 $.916 equals $6.666; 23.6% of that equals $1.57.

At $6.666 per ton, by-product oven gas is worth 19.9 cents per M.
Motor fuel 2½ gallons per ton at 40¢ per gal. equals 1.00 15%
Sulphate Ammonia 27 lbs. per ton at 2½¢ per lb. equals .67.5 10%
9 gallons per ton of tar at 2½¢ equals .22.5 3.4%

Coal at $3.75 per ton from which are derived:

Gas	1.67 or	27.3% of cost
Motor Spirit	1.00 "	17.4% " "
Ammonia Sulphate	67.5 "	11.7% " "
Tar	22.50 or	3.7% " "
	$.470	60.1%

Operating expenses per ton $.665 say $.70.
Assuming 40 ovens at $50,000 each; (They probably can be built for 80% of that amount) $2,000,000, Interest on cost 8%.
Maintenance and deterioration 4%; total 12% per annum equals $240,000.
40 ovens at 4,500 tons coke per annum, 70% coke, 6,430 tons coal for each or for the 40; 257,200 tons for the year or 93.3 cts. per ton for interest.

Operating expenses $.70 Interest $.933, together equals $1.633.

$3.47 - $1.633 equals $1.837 the net receipts over expenses on one ton coal.
Coal at $3.75 leaving net cost of coal at $1.913. Made into coke at 70% equals $2.59 say $2.60 per ton of coke.

All that coke nets above that price would be profit.

The tar contains a vast number of valuable ingredients; creosote, explosives, dyes and the residue would make binder for briquetting and probably if there was sufficient, an economical road binder. It is worth the value put on it as a fuel. For creosote, briquette binder and possibly road bitumin or binder, efforts should furnish the very best possible market. As for the dyes and explosives it is possible that other points might be better located.

In addition if the location of the by-product oven plant is well adapted as a location for a briquetting plant, to combine the two would add very materially to profits of both.

If the by-product oven plant is on the route or approximately on it from the Source of Supply of Bituminous coals to where the coke is to be disposed that would seem to be a good location for it. If, in addition said location is en route or approximately on it from coals suitable for briquetting to where the briquettes are to be sold, such situation would appear to be the most suitable.

The amounts and values of Sulphate and Tar, also amount of Motor Spirit are taken from Mr. Lucas' Report Page 79 of the Final Report of the Fuel Comptroller of Canada, March 1919.

Calgary, Alberta,
3rd March, 1920

File 318.

Dear Sir:

I am enclosing you herewith under separate cover two blueprints regarding by-product ovens and their output graphs Nos. 48 and 49.

There is no doubt whatever that by obtaining stoves designed for the utilization of coke that such coke would wholly displace Anthracite Coal and further take the place largely of other coals particularly in those portions of the country where the transportation from the mine to the point of consumption is a considerable percentage of the total cost.

The stoves at present used to burn Anthracite will burn Coke equally as well if the draughts are properly arranged. One must bear in mind however that the cubical contents of one ton of Coke is practically double that of Anthracite. It has, probably in many cases, more heat units than Anthracite and under good firing a less percentage not converted into heat.

If the purchase of stoves or furnaces suitable for burning Anthracite was to cease at once a very large demand would occur for a substitute for same and in a very few years those now in use would become worthless. It therefore follows that the coking interests and the stove making interests should get together in the way of furnishing an article suitable for burning coke.

It is probably not a rash prophecy to state that there might within the next five years be one million tons of coke used in Canadian points West of Lake Superior furnished from Alberta or British Columbia Bituminous Coals.

The consumption of Anthracite in Manitoba and Saskatchewan in round numbers for 1917 was 500,000 tons. It therefore would seem probable that within that period (five years) the demand for coke would require 220 ovens of the kind discussed to supply same.

1,000,000 tons of Coke would furnish by-product oven gas to the amount of 15,202,000,000 cu.ft. or 9,501,250,000 cu.ft. of the quality of Calgary Natural Gas

The higher the grade of fuel Alberta can produce the further said fuels can be profitably shipped. Do not coke and briquettes best fill the bill in that regard?

According to the Annual Report of Canadian Western Natural Gas, Light, Heat and Power Company dated 30th September 1915, Calgary took for the year ending that date 3,535,025,000 cu.ft. of Natural Gas which is 37.2% of what 220 ovens would produce. 37.2% of 220 equals 81.84 No. of ovens required to produce the Gas Calgary consumed in said year.

Is not this a subject which should be thoroughly looked into?

I would take as a personal favor if you would make a rigid examination of the data presented and point out any errors or if too high an estimate has been made of the by-products or any matter which suggests itself.

It is of course to be distinctly understood that though I am an official of the Canadian Pacific Railway, that Corporation is not directly or indirectly connected with the matter presented in this.

Respectfully submitted,
WM. PEARCE.

.....

NOTE: The use of coal finely pulverized and dehydrated is rapidly being extended and in the near future will occupy a prominent position in the supply of heat. Such use is particularly advantageous in the matter of lignites and will probably supplant American Coals to a large extent in Manitoba, and while the results will prove of vast economic benefit it will not extend the field for the Alberta product. Such supplanting will be by means of the Saskatchewan Lignites.

COAL OUTPUT
1924

(A)

OUTLINE MAP OF CANADA

meridian of longitude 89 degrees (which is some distance west of Port Arthur and Port William) to the Pacific Ocean.

Canadian Pacific Railway

Alberta and Great Waterways Rly.

Provincial Railways of Alberta.

(B)

	old				
	r Bar	400,874			
	y Ion				
	rkana				
17		14,748			
23	Cardiff				
24	Nabamum				
25	Pembina				
26					
	Total				
27					
28					
29					
30	Saunders	48,546	44,321	28,554	
31	Kilkenzie	506,050	454,175		
32					
33					
34	Brazeau				
35	Jasper Park		523	371	0.04
36					
Grand Total		6,203,718	4,249,915	1,691,475	

TPUT OF ALBERTA
1924

POSITION, WHEN AND WHERE PRODUCED:— MINES BRANCH REPORT
OF THE PROVINCE OF ALBERTA

OMPILED BY R.D.Bruce & G.Laing Calgary, Alberta. May 1925.

(A)

(B)

Total	99.99	1,461,217	

' denotes 'Volatile Combustible'

(1)

Coal Output of Alberta and East Kootenay District of British Columbia Combined.
Total Output = 5,510,053 Tons or 100% Scale 1" = 200,000 Tons.

Lignite or Domestic, Alberta. 3,034,660 Tons or 54.10% of Total
Sub-Bituminous, Alberta. 791,946 Tons or 14.3% .
Bituminous, Alberta 1,518,107 Tons or 27.60% of Total
Bituminous, B.C. 306,340 Tons or 5.56% .

Total Sales = 5,138,834 Tons
2,315,027 Tons or 46.81% of Total
307,[illegible] Tons or 18.9% of Total
1,461,217 Tons or 28.42% of Total

Disposition of East Kootenay, British Columbia production:

Coal Creek. 33,819 Tons or 11.11% | Michel. 184,871 Tons or 46.81% | Carbon... 75,469 Tons or 24.64%
Coal Creek 44,235 Tons or 30.1% | Michel. 75,794 Tons or 66.34% | Carbon. 3,239 Tons 2.83%
Coal Creek [illegible]

	Total Production	Total Sales	% Sales are Total Production
[illegible]	[illegible]	[illegible]	[illegible]
Sub Bitum.	431,746	423,601	98.11
Bituminous	1,315,187	1,461,217	96.44
" B.C.	306,340	223,479	72.95
Total (4 Combined)	5,318,655	5,138,334	93.85

[illegible] Mines Branch Report
B.C. Coke Production - Crowsnest Pass Coal Co Ltd.
Balance. - Provincial Mineralogist, B.C

Note.

(C)

LIGNITE OR DOMESTIC SALES FOR 1924

Name	Tons sold in Province	Tons sold in Alberta	Tons sold in B.C.	Tons sold in Sask.	Tons sold in Manitoba	BRITISH COLUMBIA				SASKATCHEWAN													
Drumheller Rosedale Wayne	249,341	13.37	828,521	50.7C																			
Clover Bar	202,216	21.93	36,886	5.33																			
[illegible]			

…ch of British Columbia Combined.

Scale 1" = 500,000 Tons

…Edmonton, Alberta — …Bituminous, Alberta — …Bituminous, B.C.

…,341 Tons or 4.7% — 1,315,107 Tons or 57.50% of Total — 341,340 Tons or 8.36%

Scale 1" = 500,000 Tons

…Bit. Bituminous, Alberta — …Bituminous, Alberta — …Bituminous

534,401 Tons or 18.40% — 1,461,217 Tons or 28.49% of Total — 283,479 or 9.36%

…ritish Columbia production:-

…Canada = 149,289 Tons = 100% ?

…% — Tunnel, 25,774 Tons = 66.39% — Carbon, 3,137 Tons, 8.1% — Coal Creek, 48,886 Tons or 31.16% — Michel, 3,845 Tons, 11.17% — Carbon, 21,430 Tons or 31.07%

Alberta Coal Production — Dept. of Mines Report.
B. C. Coke Production — Crowsnest Pass Coal Co. Ltd.
Balance. — Provincial Mineralogist, B.C.

53,768 Tons of Coal produced 34,629 Tons of Coke or 64.4%.
Of Coke produced 25,409 Tons were sold in Canada or 73.37%
" " " 9,219 " " " " U.S. " 26.63%

…ngs:- B.C. Saskatchewan, Manitoba, Ontario, and the United States showing Sales in Tonnages and Percentages:

SALES FOR 1924

	MANITOBA			ONTARIO				UNITED STATES				
								(3,302 Tons or 0.745% of Total Sales of Coke)				
								3,507				
								527				
								5,312				
								65				
								32				
								1,744				
								1,115				

…Represent the percentage of total sales of coal from Alberta to …
B. = the % of Sales based on total sales of coal outside of Alberta (…

(H)

…ton	12.46%
Clover Bar	18.20%
Edmonton	3.34%
Tofield	3.73%
Jenkins	8.15%
	60.23%

…Drumheller, Lethbridge, Clover Bar, Edmonton, Medicine Hat and Tofield, showing the output for each month of the year, [illegible] as to the average monthly production and showing …

…Drumheller for the year 1924. Bankhead and Mount Royal included. Prior to 1923 the two were included …

…Tofield. Average [illegible] Tons per year for the three periods.

…No. 1 Drumheller shown thus:-
…No. 2 Lethbridge " " — — — —
…No. 3 Clover Bar " " ————
…No. 4 Edmonton " " ~~~~~~~~
…No. 5 Medicine " " - - - - - -
…No. 6 Tofield " " ~~~~~~~~

…of Field and Total Tonnage for 6 years, Taken …
Tofield, 406,081 Tons.
Edmonton, 856,650 Tons
Drumheller, 5,720,651 Tons.

INDEX	
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20
	21
	22
	23
	24
	25
	26
	27
	28
	29
	30
	31
	32
	33
	34
	35
	36
	37
	38
	39
	40
	41
	42
	43
	44
	45
	46
	47
	48
	49
	50
	51
	52
	53
	54
	55
	56
	57
	58
	59
	60
	61
	62
	63
	64
	65
	66
	67
	68
	69
	70
	71
	72
	73
	74
	75
	76
	77
	78
	79
	80
	81
	82
	83
	84
	85
	86
	87
	88
	89
	90
	91
	92
	93
	94
	95
	96
	97
	98
	99
	100
	101
	102
	103
	104
	105
	106
	107
	108
	109
	110
	111
	112
	113
	114
	115
	116
	117
	118
	119
	120
	121
	122
	123
	124
	125
	126
	127
	128
	129
	130
	131
	132
	133
	134
	135
	136
	137
	138
	139
	140
	141
	142
	143
	144
	145
	146
	147
	148
	149
	150
	151
	152
	153
	154
	155
	156
	157
	158
	159
	160
	161
	162
	163
	164
	165
	166
	167
	168
	169
	170
	171
	172
	173
	174
	175
	176
	177
	178
	179
	180
	181
	182
	183
	184
	185
	186
	187
	188
	189
	190
	191
	192
	193
	194
	195
	196
	197
	198
	199
	200
	201
	202
	203
	204
	205
	206
	207
	208
	209
	210
	211
	212
	213
	214
	215
	216
	217
	218
	219
	220
	221
	222
	223
	224
	225
	226
	227
	228
	229
	230
	231
	232
	233
	234
	235
	236
	237
	238
	239
	240
	241
	242
	243
	244
	245
	246
	247
	248
	249
	250
	251
	252
	253
	254
	255
	256
	257
	258
	259
	260
	261
	262
	263
	264
	265
	266
	267
	268
	269
	270
	271
	272
	273
	274
	275
	276
	277
	278
	279
	280
	281
	282
	283
	284
	285
	286
	287
	288
	289
	290
	291
	292
	293
	294
	295
	296
	297
	298
	299
	300
	301
	302
	303
	304
	305
	306
	307
	308
	309
	310
	311
	312
	313
	314
	315
	316
	317
	318
	319
	320
	321
	322
	323
	324
	325
	326
	327
	328
	329
	330
	331
	332
	333
	334
	335
	336
	337
	338
	339
	340
	341
	342
	343
	344
	345
	346
	347
	348
	349
	350
	351
	352
	353
	354
	355
	356
	357
	358
	359
	360
	361
	362
	363
	364
	365
	366
	367
	368
	369
	370
	371
	372
	373
	374
	375
	376
	377
	378
	379
	380
	381
	382
	383
	384
	385
	386
	387
	388
	389
	390
	391
	392
	393
	394
	395
	396
	397
	398
	399
	400
	401
	402
	403
	404
	405
	406
	407
	408
	409
	410
	411
	412
	413
	414
	415
	416
	417
	418
	419
	420
	421
	422
	423
	424
	425
	426
	427
	428
	429
	430
	431
	432
	433
	434
	435
	436
	437
	438
	439
	440
	441
	442
	443
	444
	445
	446
	447
	448
	449
	450
	451
	452
	453
	454
	455
	456
	457
	458
	459
	460
	461
	462
	463
	464
	465
	466
	467
	468
	469
	470
	471
	472
	473
	474
	475
	476
	477
	478
	479
	480
	481
	482
	483
	484
	485
	486
	487
	488
	489
	490
	491
	492
	493
	494
	495
	496
	497
	498
	499
	500
	501
	502
	503
	504
	505
	506
	507
	508
	509
	510
	511
	512
	513
	514
	515
	516
	517
	518
	519
	520
	521
	522
	523
	524
	525
	526
	527
	528
	529
	530
	531
	532
	533
	534
	535
	536
	537
	538
	539
	540
	541
	542
	543
	544
	545
	546
	547
	548
	549
	550
	551
	552
	553
	554
	555
	556
	557
	558
	559
	560
	561
	562
	563
	564
	565
	566
	567
	568
	569
	570
	571
	572
	573
	574
	575
	576
	577
	578
	579
	580
	581
	582
	583
	584
	585
	586
	587
	588
	589
	590
	591
	592
	593
	594
	595
	596
	597
	598
	599
	600
	601
	602
	603
	604
	605
	606
	607
	608
	609
	610
	611
	612
	613
	614
	615
	616
	617
	618
	619
	620
	621
	622
	623
	624
	625
	626
	627
	628
	629
	630
	631
	632
	633
	634
	635
	636
	637
	638
	639
	640
	641
	642
	643
	644
	645
	646
	647
	648
	649
	650
	651
	652
	653
	654
	655
	656
	657
	658
	659
	660
	661
	662
	663
	664
	665
	666
	667
	668
	669
	670
	671
	672
	673
	674
	675
	676
	677
	678
	679
	680
	681
	682
	683
	684
	685
	686
	687
	688
	689
	690
	691
	692
	693
	694
	695
	696
	697
	698
	699
	700
	701
	702
	703
	704
	705
	706
	707
	708
	709
	710
	711
	712
	713
	714
	715
	716
	717
	718
	719
	720
	721
	722
	723
	724
	725
	726
	727
	728
	729
	730
	731
	732
	733
	734
	735
	736
	737
	738
	739
	740
	741
	742
	743
	744
	745
	746
	747
	748
	749
	750
	751
	752
	753
	754
	755
	756
	757
	758
	759
	760
	761
	762
	763
	764
	765
	766
	767
	768
	769
	770
	771
	772
	773
	774
	775
	776
	777
	778
	779
	780
	781
	782
	783
	784
	785
	786
	787
	788
	789
	790
	791
	792
	793
	794
	795
	796
	797
	798
	799
	800
	801
	802
	803
	804
	805
	806
	807
	808
	809
	810
	811
	812
	813
	814
	815
	816
	817
	818
	819
	820
	821
	822
	823
	824
	825
	826
	827
	828
	829
	830
	831
	832
	833
	834
	835
	836
	837
	838
	839
	840
	841
	842
	843
	844
	845
	846
	847
	848
	849
	850
	851
	852
	853
	854
	855
	856
	857
	858
	859
	860
	861
	862
	863
	864
	865
	866
	867
	868
	869
	870
	871
	872
	873
	874
	875
	876
	877
	878
	879
	880
	881
	882
	883
	884
	885
	886
	887
	888
	889
	890
	891
	892
	893
	894
	895
	896
	897
	898
	899
	900
	901
	902
	903
	904
	905
	906
	907
	908
	909
	910
	911
	912
	913
	914
	915
	916
	917
	918
	919
	920
	921
	922
	923
	924
	925
	926
	927
	928
	929
	930
	931
	932
	933
	934
	935
	936
	937
	938
	939
	940
	941
	942
	943
	944
	945
	946
	947
	948
	949
	950
	951
	952
	953
	954
	955
	956
	957
	958
	959
	960
	961
	962
	963
	964
	965
	966
	967
	968
	969
	970
	971
	972
	973
	974
	975
	976
	977
	978
	979
	980
	981
	982
	983
	984
	985
	986
	987
	988
	989
	990
	991
	992
	993
	994
	995
	996
	997
	998
	999
	1000

…Coal Fields
…Alberta
…Saskatchewan
…Manitoba
…Ontario
…United States
…to Railways — Bituminous
…production — Bit. Bituminous
…Alberta — Domestic
Sub. Bituminous Fields
Sales and Production
Tofield — production (tonnage)
Three Hills
Tofield
Tonnage
Total Sales Alberta
British Columbia
Output
Tracks, producing Domestic
Wabamun
Wayne

(A) Map of that portion of Canada lying south of Latitude 54 and West Longitude 48 …, continuing all the country lying east of the Meridian, extending North from Regina. Showing all the Railways, the chief centres of production, the different coal fields or Districts, their position, the production therefrom being classified into, Lignite, Bituminous, Sub-Bituminous, Anthracite coals. Further explaining the location of Public ownership in East Kootenay, etc., which field is now and the most valuable & extensive fields of Southern Alberta.

…katchewan, Manitoba, Ontario, U.S. and Railways showing sales in percentages and tonnages. The percentage allotted to

| | | |

Graph showing where the Bituminous Coals were disposed of outside the Province, viz:- B.C. Saskatchewan, Manitoba, Ontario, U.S. and Railways showing sales in percentages and tonnages. The [illegible] for Railway consumption outside the province is assumed at 50% of the total

BITUMINOUS SALES FOR 1924

Graph showing the total Output of Bituminous Coals for each month of the Calendar year 1924 Output being in tons weekly returns [illegible]

Total Bituminous Output for the 5 years 18,047,619 Tons
184.80% 1,337,173
Total Bituminous Output for the 5 Years 19,777,879 Tons.

LEGEND

Canadian National Railway System

Canadian Pacific Railway

Edmonton, Dunvegan and B.C. and Canada Central Rlys

Alberta and Great Waterways Ry.

Canada and Great Western Railway

Great Northern Railway

Kansas Nebraska Railway

DAF 1974-169-2100-001-014

COAL OUTPUT O
1923

OUTLINE MAP OF CANADA

UT OF ALBERTA
023

WHEN AND WHERE PRODUCED:- MINES BRANCH REPORT OF ALBERTA.

k & Laing. Calgary, Alberta, July, 1924.
m PEARCE

Coal Output of Alberta and East Kootenay District of British Columbia Combined.
Total Output = 7,696,211 Tons or 100% Scale 1" = 481,013 Tons or 6.66%

Domestic Alberta 3,161,714 Tons or 41.08% of total — Sub Bit. Alberta. 443,441 Tons or 6.02% — Bituminous, Alberta 3,241,614 Tons or 42.12% of Total. — Bituminous B.C. 827,375 Tons or 10.78% of total.

Total Sales 7,376,544 Tons or 100% Scale 1" = 454,781.5 Tons or 6.66%

Domestic Alberta 2,373,566 Tons or 40.06% of total — Sub. Bituminous 409,022 Tons or 5.63% — Bituminous Alberta 3,121,627 Tons or 43.03% of Total. — Bituminous B.C.

Disposition of East Kootenay, British Columbia, production.

Total Sales of Coal from coal mines to Canada & U.S.A. = 762,327 Tons or 100% Scale 1" = 20%
Coal Creek 445,230 Tons or 58.41% — Michel 247,787 Tons or 32.51% — Corbin 47,240 Tons or 6.19%

Total Sales in Canada = 352,010 Tons or 100% Scale 1" = 20%
Coal Creek 126,946 Tons or 36.06% — Michel 187,278 Tons or 53.20% — Corbin 37,786 Tons or 10.74%
Note. Of these 352,010 Tons, 59,367 Tons were converted into Coke producing 65.09% of acid weight of Coal as Coke.

Total Sales to U.S.A. = 410,317 Tons or Scale 1" = 20%
Coal Creek 318,376 Tons or 77.59%
Note. Of these, 410,317 Tons, 40,576 Tons were producing 68.04% of acid weight of Coa

A. - the % of Sales based on total sales of
B. - " " " " " " " "
C. - " " " " " " " "

LIGNITE OR DOMESTIC SALES FOR 1923

| | | |

	TABLE No.
Alberta Coal, total Output and Total Sales	A.
Lethbridge, Production domestic	B.
Imperial Oil Alberta Supply General	C.
Anthracite, Coke as substitute for	D.
Bottle River, production domestic	B.
Big Valley, " "	B. E. G.
Bituminous Fields	A.
Bituminous, Chief producing fields	A.
" "	B.
Bituminous and Lignite production combined	B.
Vancouver Island, production Domestic	B. C. E. D.
Drumheller, production Bituminous	D.
British Columbia - sales in, of Alberta Coal	E.
" " Coals from S.E. portion, total	E.
sales and total output, comparisons with Alberta	E.
[illegible]	B.
[illegible]	A. C. E. G.
[illegible]	A. C. E. G.
[illegible]	A. C. E. G

LIGNITES OR DOMESTIC

8 Roosevelt	1,257,368	1,191,959		
20 Wayne				
9 Big Muddy	47,798	46,645	97.590	
21 Arnots	8,316	8,294	99.734	
	70,384			
	10,606			
	1,403			

UofA-1974-169-2100-001-011

Coal output
Alberta
1923